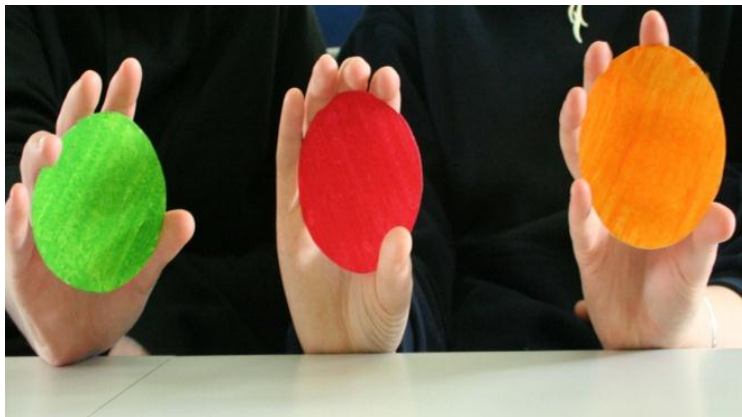


Assessment for Learning: from Theory to Practice

Final Report

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September 2012



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1. Assessment for Learning: from Theory to Practice

2. Kathryn Mc Sweeney

3. August 2012

4. Timeframe

The initial study of literature, planning of the research project and interviews with key stakeholders regarding assessment took place from 2008-2009 and field research was conducted in four second level schools from the period 2009-2011.

5. Brief outline of research idea

The improvement of classroom pedagogy and the quality of learning in home economics were the key concerns that led to this research project. The application of the Assessment for Learning (AfL) process in a home economics context has not been extensively reported and for this reason a detailed study was carried out to address the deficit in knowledge and to pave the way for further teacher led action-research.

6. Summary of research aims

This small-scale study aimed to explore Assessment for Learning techniques and to identify their relevance and potential application to the home economics classroom.

The key research questions were:

1. What factors currently influence home economics assessment practice?
2. How can AfL principles effectively be applied in a home economics context?
3. What are the main benefits of an AfL home economics classroom?
4. What are the challenges to the application of AfL principles and the coupling of formative assessment in a summative assessment tradition?

7. Methods

A mixed method qualitative approach was adopted. There were two phases to the research:

- Phase one involved an exploration of literature. The essence of findings from AfL research studies was taken into account in the design of the 'AfL project'. Research was firstly conducted in a school setting to extract a cross-sectional view on assessment practice. This involved an interview with the school principal and the completion of focus group interviews with two groups of seven students, one focus group of five parents and one focus group of five teachers on their views regarding assessment practice. The interview data informed the research project.

- Phase two consisted of the implementation of an AfL project. Four second-level schools, eight teachers and their selected classes participated in the AfL research project. Schools were located in Limerick, Dublin, Wicklow and Wexford and included three secondary schools and one vocational school. Participant teachers were issued with a pre-test questionnaire. This helped establish their views on assessment, features of typical assessment practice in home economics, factors affecting assessment design and implementation and perceptions regarding formative assessment and AfL. Training packs and resources were distributed and cluster discussions were held with teachers regarding the process and principles of AfL (Appendix 1). Teachers were instructed to review the pack and to implement strategies they considered appropriate in their own context and teachers were encouraged to adopt a peer-to-peer professional learning approach to the project and to plan and design new strategies collaboratively. Teachers were empowered to experiment with AfL techniques, to design and create subject specific adaptations and to share experiences. The project concluded with a collection of participant reflections.

Data analysis was an ongoing process from the beginning of data collection and included notes from planning meetings and teacher and researcher observational notes on developments. The data was analysed based on the key research questions and thematic areas of the study. These themes were generated from the early analysis stage and included the following:

- Perceptions regarding teaching, learning and assessment
- Impact of AfL on classroom practice and student learning
- Challenges to the AfL process
- Teachers' views of the project

For clarity and the ease of reporting, please note the following codes:

School 1	Principal 1, Teacher 1, Teacher 2, Teacher 3, Parent Group, Teacher Group, Student Group 1 (Junior Cycle), Student Group 2 (Senior Cycle)
School 2	Teacher 4, Teacher 5, Teacher 6
School 3	Teacher 7
School 4	Teacher 8

Ethical considerations

Care was taken to ensure all ethical issues were identified and considered. Informed consent was received from all participants in the study. Participants were assured of anonymity and that all responses would be treated confidentially. Participants were given the opportunity to ask questions before, during and after the research was conducted. The purpose of the research was communicated to participants. They were assured that participation in the research was entirely voluntary and that they were free to withdraw from the research without giving any reason or explanation.

8. Summary of background reading

Summative assessment provides information on the achievement of students at the end of a period of learning. State examinations are a form of high-stakes, summative assessment and a formal method of measuring performance. Miniature, informal, low-stakes summative assessment often mirrors high-stakes assessment and this type of assessment features strongly in the Irish classroom. The main focus is on the assessment *of* learning.

In contrast, assessment *for* learning is an approach that uses classroom assessment to broaden learning, promote achievement and provide opportunities for developing self-regulated learners, initiative and reflective practice. A quantitative improvement in learning gains is possible when using this approach. The phrase AfL is a common substitute for formative assessment. AfL is a key formative and developmental assessment purpose. Formative assessment provides information to teachers on where individual students are in their learning, enabling teachers to meet the needs of students. The assessment information acquired informally in most cases influences how the students are taught and consequently assists in improving learning. 'For assessment to function formatively, the results have to be used to adjust teaching and learning (Black, P. & Wiliam, D. 1998:5).'

AfL is not viewed as a stand-alone theory, but it is based on an amalgam of key research conducted into active learning, learning objectives/outcomes, learner autonomy and self-assessment. There is a misconception that assessment for learning is 'atheoretical' and entails a series of practical teaching and learning strategies that have few explicit theoretical underpinnings. In fact, the assessment for learning process is 'an active, social process, in which the individual makes meaning and which is best done by building on what is already known (Stobart, 2008:150)'. The process brings together different schools of thought including the neo-behaviourist model of mastery learning and social constructivist learning theory. The neo-behaviourist model of mastery learning was developed by Bloom *et al* (1971) and included the use of small units of learning followed by formative assessment. 'Social constructivist' learning theory views learning as a social process in which the individual develops meaning. The use of the term social constructivist is contentious because it borrows elements from different schools of thought including 'the constructivist camp, with its emphasis on individual meaning-making, or the situated learning camp, in which learning is seen as the result of participation in a community of practice', where the social and cultural basis of learning and contextual relevance is important (Stobart, 2008:151). An interactive learning environment that can form, shape and guide the next steps in learning will enhance the AfL process.

The efficacy of AfL in supporting learning has been backed by many organisations and key researchers in the field. An AfL developmental initiative led by the National Council for Curriculum and Assessment (NCCA) arose from the consultative process undertaken as part of the review of Junior Cycle. Pilot schools in Sligo and Cork were supported in the use of formative assessment and the 2005 'Interim Report on the Developmental Initiative in AfL in Junior Cycle' outlined that the AfL approaches used enhanced student motivation and performance. The enhancement of teacher/student relationships was also reported. During Phase II of the project (2005-2006), web-based support for the initiative was developed. An

Organisation for Economic Co-operation and Development (OECD) report on formative assessment was published in 2005 and it outlined the importance of the systematic practice of formative assessment. The OECD studied the use of formative assessment in Australia, Canada, Denmark, England, Finland, Italy, New Zealand and Scotland and the study found that formative assessment was effective in raising the level of student achievement and improving students' ability to learn. The document outlines ingredients to the successful use of AfL and outlines how the culture of classroom changes when using formative assessment. The Assessment Reform Group (ARG) in the UK over the past 15 years has actively refocused assessment activities on student learning and using assessment to support learning. Paul Black and Dylan Wiliam extensively reviewed formative assessment writings and research on their behalf and the review produced quantitative evidence that formative assessment works. 'Inside the black box: raising standards through classroom assessment' published in 1998 focused attention on standards of learning. Black and Wiliam initially gathered 'firm' evidence that formative assessment can improve standards and result in significant learning gains in all learners and especially amongst lower achievers. Under-achievement can be turned round if the belief is instilled in learners that an investment in learning can lead to success. The classroom culture of chasing better marks rather than better learning can result in competition and de-motivation and disengagement amongst lower-achievers. Students sometimes just 'get by'; they do enough to avoid being the spotlight, but don't invest in personal improvement for fear of being disappointed.

'Pupils who encounter difficulties and poor results are led to believe that they lack ability, and this belief leads them to attribute their difficulties to a defect in themselves about which they cannot do a great deal. So they 'retire hurt', avoid investing effort in learning which could only lead to disappointment...What is needed is a culture of success, backed by a belief that all can achieve...' (Black, P. & Wiliam, D. 1998:9)

Black and Wiliam extended their work with researchers Harrison, Lee and Marshall and included forty eight teachers in AfL research in the U.K. in an attempt to provide hard evidence of the effectiveness of these methods. Their publication 'Assessment for Learning: Putting it into practice (2003) offers valuable insights into how teachers implemented the ideas on the ground and is an excellent reference guide for teachers and managers. In 2004, a three year AfL action research project was conducted in 65 primary and post-primary schools in the UK and the project involved the experimentation with aspects of AfL methodology. The project placed a focus on learning, effective questioning, formative feedback and scaffolding reflection. The learning and experiences from this project were published in a document entitled 'AfL Assessment for Learning: A Practical Guide'. Some positive changes documented from this project include:

'...pupils were more confident and more willing and able to talk about learning. Teachers felt they were more tuned into pupils' learning needs and that they were developing a more sophisticated understanding of learning and teaching based on authentic evidence (CCEA/ELB Assessment for Learning Action Research Project: 2009: v).'

Students would need to 'buy into' the new approach and see its merits promptly in order to counteract old learning habits. Enhanced feedback mechanisms would be required in classes which may call for new forms of pedagogy. Black and Wiliam clearly point to the challenges encountered when adopting new methods. Students can be challenged as they are required to change their learning routine, to think for themselves and articulate their own ideas.

'...teachers have to take risks in the belief that such investment of time will yield rewards in the future, whilst 'delivery' and 'coverage' with poor understanding are pointless and even harmful (Black, P. & Wiliam, D. 1998:13).'

The personal belief of teachers regarding effective teaching and learning will determine whether they take-up this approach whole-heartedly. AfL methods that are not applied consistently will have a low impact on student learning and achievement. The active involvement of students is a key feature of AfL. High-quality classroom interactions between the teacher, students and teaching and assessment materials contribute to high-quality learning. The approach involves regularly reflecting on classroom practice, generating higher satisfaction and productivity levels and achieving a high-value return on effort invested.

Sadler in 1989 and Stiggins *et al*, 2007 outlined key elements of effective learning; knowing the desired goal, one's present position in relation to the goal and how to close the gap between the two. Stiggins *et al* developed 'Seven strategies of Assessment for Learning' which is an easy to follow organising framework for practitioners (Appendix 2).

9. Overview of research findings and recommendations

This project focused on the application of AfL in a home economics context. Teachers explored and evaluated the practical use of AfL tools in the classroom. The data collected from the teachers has confirmed the effectiveness of AfL in improving aspects of classroom practice. There were strong endorsements of the potential of AfL to effect improvements in pedagogy and student learning. The findings are illustrated by comments¹ from teachers, students and other stakeholders and they are presented using the following themes:

- Perceptions regarding teaching, learning and assessment
- Impact of AfL on classroom practice and student learning
- Challenges to the AfL process
- Teachers' views of the project

Perceptions regarding teaching, learning and assessment

There was general consensus that students are not aware of how they learn and the process of learning and that there is a need to address how students learn from a very young age.

'...I don't think they know how they learn.' School 1 Principal 1

'...I think they open a book and they learn it off by heart and that's it. The whole concept of learning has not been explained to them....' Parent Group

¹ The comments are presented verbatim from interviews or have been transferred from written feedback. Minor typographical corrections have been made where these were felt appropriate to the sense of the comment.

'...If I had a test today and I studied for it and got say a B and 6 months after that you gave me that test again I would probably fail it. I just forget....' Student Group 2

Meaningful learning is a desired student outcome.

'...effective learning is when students learn in a logical way...that is retained and they can actually appreciate it and they can actually use it...that it's not something that is here today and gone tomorrow.' School 1 Principal 1

'Learning which the students take ownership of and which they will retain for life.' Teacher 8

Students learn easily when the subject matter is interesting, clearly explained and the learning environment is interactive.

'...when you learn the theories, you have to then be able to take that concept and move it into practical life...they have the theory and knowledge behind them and then to put that into everyday life and practice.' Parent Group

'...I think learning for life needs to come across more than learning for the month of June.' Teacher Group

'...it is learning that can be applied to different situations.' Teacher 4

Effective teaching involves the delivery of clear explanations and the development of understanding and application in an interactive and interesting environment. Teachers knew their teaching was effective when students showed a desire to learn and when students demonstrated understanding of topics covered (Teacher 2).

'...well organised, clear and unambiguous...' Teacher 6

'...it is explained so well even going down to the nitty-gritty of it...time spent on good clear explanations.' Parent Group

'...Always explaining what you are teaching...there to explain if you are ever stuck...no rushing through the class, taking one step at a time...' Student Group 1

'...I hate when we sit there and read through a book...' Student Group 2

Assessment was viewed as a way of motivating students, measuring progress and checking on learning. Students are motivated especially if they like a subject, or if they wish to experience a feel-good factor, to prove they can do it to teachers and parents and to improve on their previous grade especially if they do badly. Assessment provides valuable feedback to the teacher on their own teaching methods.

'...It is a goal for students to aim towards.' School 1 Principal 1

'It is a form of motivation in itself, assessment...for some a good result is a prize...' Teacher Group

'...To see how you are progressing in your learning...to see if you need help in a particular area...' Student Group 1

'As a means of finding out what the student understands and knows as a result of my teaching...where a teacher learns what areas may need different teaching methods...' Teacher 2

Teachers experience a sense of pride when students do well and make progress.

'...It is important that the students have a feeling of satisfaction but I think it is also important for the teacher to feel that the work that was put in was rewarded...'
Teacher Group

Assessment also drives learning and the summative 'big exam' puts pressure on students to learn and achieve as the stakes are high.

'...To make you really know the information so you know it better for proper exams like big exams.' Student Group 1

The view was commonly held that the summative exam is a 'memory' test and suitable for those who are good at memorising.

'...A lot of it is students cramming it in at the end and remembering it for a day or two and then it is gone...learning for June and then forget about it.' Teacher Group

Teachers revealed the pressures they experience in covering the curriculum and alluded to the impact of assessment on student outcomes.

Parents when questioned about assessments they considered to be beneficial or likeable revealed how students enjoy having a choice in what they learn and are subsequently assessed in and when they have ownership of their learning more effort is expended.

'...they have outcomes they have to achieve...when you give them the choice (content), the outcomes will seem much more achievable for them because it is their choice in the first place.' Parent Group

Impact of AfL on classroom practice and student learning

It was outside the scope of this project to formally monitor student outcomes, however participating teachers offered their professional opinion as to the impact of the process and strategies on student learning from their observations.

AfL was viewed by teachers as a process that can contribute to greater understanding for the learner of where their strengths and weaknesses lie.

'...Give them tools so they can assess their own work.' Teacher 1

'...Involves the learner more fully in the learning process as they are an active participant.' Teacher 1

The delivery of feedback was considered essential and students considered feedback to be encouraging and motivating especially when promptly delivered.

'...I don't like when they just put 'x' in like that's wrong. I like when they actually say if you add this in it would make the answer better...' Student Group 2

AfL research has shown that giving feedback only to students rather than grades puts more emphasis on the learning and can reduce competitiveness in the classroom.

'...if your friend got an A in this and you only got a C, it brings you down a bit whereas with feedback it's just telling you or saying to you where you have gone wrong and you don't have to like come up against your friends.' Student Group 2

Receiving a low grade could impact on motivation and confidence in one's ability to improve whereas feedback only would enable progress in learning without disheartening the learner.

'...If you see an F...it would make you feel bad, you wouldn't want to look at it more, you just want to shove it into your bag...' Student Group 1

There was consensus that feedback is preferable to grades but students in this research preferred to receive both. Grades 'are something to aim for like a target.'

'...so say if you get a D, next time you could go a bit higher if you were told what you are doing wrong...I think a bit of both because your grade sets your aim but then feedback...you have to learn from your mistakes and try harder next time.' Student Group 1

'A grade isn't telling you where you went wrong. You could just answer the same question again the next time the way you did it and it could be wrong again.' Student Group 2

'A result should not be an end result but an indicator of areas not understood and outlines where improvements can be made...allows assessment to be more than an end but a beginning of new learning.' Teacher 1

Feedback is a valuable strategy that assists learning however it can be more effective if the students 'get it' or understand it. Students spoke about the Leaving Certificate food studies journal and gave an example of how feedback was given on coursework. Feedback was not meaningful as they were told what to do without explanation or understanding. The feedback to be worthwhile needs to make sense to the learner otherwise it does not enhance learning, it is the teacher's input and it just serves to improve marks.

'You hand them up, a teacher writes little notes and you just put that in but you are not thinking that yourself...' Student Group 2

Parents revealed that sometimes the teachers can close the learning gap for the child by checking in with them to ensure they understand and are happy with the feedback given on home work or exams.

'...what was actually done and what the teacher wanted were two different things but there was not enough explanation as to what it was that was wrong...' Parent Group

Students revealed some un-ease in relation to asking a teacher for personal assistance when stuck. Shyness, self-consciousness, fear of teacher impatience and the perception that they would be holding the class back were reasons cited for not asking the teacher for more assistance and when questioned about what they did about it, they responded that they 'just leave it'.

However with large class sizes it is difficult to issue regular personalised feedback.

'...If you had 6 or 7 in a class, that is fine but if you had 25 or 26 it would be impossible, it would take you a whole class...it would be just impossible...' Teacher Group

It was the view held by teachers that they are responsible for record keeping and monitoring of student targets, however an AfL approach embraces student empowerment in the process and ownership of setting and monitoring personal targets. This way would reduce the paper work demands on teachers and improve learning practices.

'Ultimately it should be easier because you would end up with a group of students that are more motivated but initially it would be difficult because you would be changing your approach and your idea of what teaching is all about.' Teacher Group

Time constraints and curriculum pressures commonly result in a swift and efficient coverage of curriculum with time for revision planned for before examination time usually. When one should move on from a topic and what to do if a certain percentage are not 'picking up' or understanding is a daily concern for teachers.

'...If you are assessing them and there aren't any signs of improvement then it isn't just them, it is you as well so you have to change your methods or speed with which you are working or the way in which you are teaching...' Teacher Group

'...We shouldn't really move on to the next thing if we don't understand the thing we have actually studied...but you could be there forever so everybody in the class would have to work towards getting it done so we can move on...as a class you would be working together.' Student Group 2

A motivated class working together and willing progress can serve to motivate students who ordinarily might not try so hard. They would not wish to be seen to hold up the whole class. The classroom ethos would consequently shift.

'...I think more people would do it because they don't want to feel the whole class is stuck behind.' Student Group 2

Time taken to develop understanding during the learning process can reduce revision time at the end of a cycle of learning.

'...when they get to revise what they have already covered, it is easy for them because they understand it. It would save the teacher going into reverse gear...' Parent Group

Teachers and students had reservations about using peer assessment techniques and this suggests that clearer guidelines are needed on their use.

'...Advantageous definitely but I would be concerned where you have students assessing each other.' Teacher Group

'...You are obviously not comfortable with your friends correcting your test...' Student Group 1

'...I would rather have my own test and compare it to the sample answer.' Student Group 2

However peer assessment methods are proven effective once the ground rules are established and criteria are used in the assessment of work.

Challenges to the AfL process

At the outset of the research, participating teachers and stakeholders were not greatly familiar with formative assessment and the process of AfL.

'...I have a general idea of the concept of AfL but am not confident enough to use it in class as I do not fully understand it.' Teacher 3

Participating teachers were content to explore methods on a piecemeal basis until they developed confidence in the process. They were comfortable experimenting with the formative assessment methods in non-exam classes and for topics that they felt were suitable for AfL techniques rather than across the curriculum. It is important to highlight that that consistent implementation of AfL methods across the curriculum leads to greater student outcomes and enhanced learning. An inconsistent approach to the implementation of the AfL process can lead to pupil confusion, distraction from the attainment of learning goals and potentially a loss of intrinsic motivation as they are pulled from one approach to another. However methods could not be imposed on participating teachers as this would have led to resistance, discomfort and stress. Teachers shared their reservations in relation to adapting new practices in the initial focus group interview.

*'Initially it would be difficult because you would be changing your approach and your idea of what teaching is all about...'*Teacher Group

This proved to be true in reality as teachers required time to adjust to new techniques. Time taken to plan and implement AfL was a key concern.

It is important to acknowledge that educational change is best achieved by building on existing good practice. Research studies show that where formative assessment practices are strengthened, significant learning gains are achieved (Black, P. & Wiliam, D. 1998:3)

Teachers' views of the project

Participants were very enthusiastic about the potential benefits AfL could offer students and teachers at the outset of the research project. The project was considered as a resource to the schools involved as it was a shared experience. The teachers overall agreed that the project was a worthwhile and rewarding experience and that students were more engaged and took more ownership and responsibility for their learning. A 'collaborative approach to learning' evolves where responsibility for learning is shared (Teacher 1).

'All students felt that they had an important input into the 'learning' in the classroom.' Teacher 2

A learning outcome chart designed for this project was considered effective as it made the targets appear more tangible². Teachers improved this strategy by using enlarged laminated arrows on a Velcro board. This modification provided extra space for the writing of learning outcomes.

'...Using learning outcomes focused the students and teachers.' Teacher 2

'...they were genuinely enthused as they could see how it would benefit them...Students appeared to have more ownership of their learning and a clear framework of where they were headed.' Teacher 2

Students were enthusiastic about strategies used.

'The fact that students could tick the learning objectives achieved and identify why they had/had not achieved benefited them greatly. This was because it highlighted the importance of setting goals and evaluating if these had been met...which gave instant feedback.' Teacher 1

Physically ticking the boxes provided a sense of achievement to students.

'...students quickly realised that if they did not apply themselves in class they would not reap the rewards.' Teacher 1

AfL strategies were viewed as novel and 'students thought it was a game' (Teacher 1). Students were reported as being more alert when the 'lollipop sticks' strategy was used to check understanding.

'...all students know that each one of them would be asked questions during the class. 'Hands up' for answers is a fruitless method of assessment as only the bright students are going to put their hands up...Feedback from the students is very positive about this. No hands up in my classroom!' Teacher 2

Participating teachers revealed that they further developed their observational skills and awareness and they were keenly looking for clues and cues to student understanding. Students assisted teachers in this by using traffic light circles³ to indicate their personal level of understanding.

'...There had to be strict rules in place in order to avoid embarrassment among learners. Once these were in place the learners were quite open to using them and they proved successful for highlighting areas of difficulty and areas to be re-taught.' Teacher 7

Teachers had to work out ways of developing understanding when red lights were shown.

'...It was challenging as a teacher to decide when to continue teaching if a student displayed their red circle showing that they did not understand something...Being realistic there is not time to stop every time a student is unsure of something...reacting to the lack of understanding is the problem.' Teacher 2

² The learning outcomes poster consisted of signposts. The poster was laminated so teachers could use white board markers to write on the signposts (Appendix 3).

³ Each student had a set of 'lights'; red, amber and green that were used to indicate level of learning.

If a teacher ignored a red light it appeared to de-motivate students whilst re-teaching segments irritated more able students.

'...when I didn't recap a section that a student had indicated that they didn't understand, I felt they became less motivated. However when I did recap, some of the more able students were tiring. It is a fine balance teaching mixed ability classes regardless of traffic lights.' Teacher 1

Timid students who ordinarily refrain from classroom participation benefited from the traffic light strategy.

'...I placed green light students beside red light students before we did group work. The red light students gained by being beside a green light student...Peer group discussion and whole class dialogue is improved...there is greater interactivity...class seating though has to be changed on a regular basis.' Teacher 2

The feedback received by teachers when using the traffic lights strategy greatly impacted on pedagogy.

'A lot of 'red lights' are an indication that as a teacher you may need to assess this method of teaching a topic...I have had to re-assess the methods that I was using to teach a few topics as a result of this AfL work. This has been a learning experience for me.' Teacher 2

Previous research in the field suggests that a quick question directed to the student in question can clarify any mis-understanding or pairing students with learners who show a green light and conducting a 'think pair share' activity periodically can enhance overall class understanding. Overall there was consensus that this strategy is very effective.

'The involvement and participation of students is much improved by this exercise. ..The confidence and motivation of the students is greatly increased...' Teacher 2

Teachers became more aware of the types of questions used in class.

'You start to look at the potential of each question to stimulate thinking and discussion and you anticipate responses. You are thinking ahead about where questions might lead. You pose questions that direct them to the next step in the learning process not just the correct answer.' Teacher 2

Teachers used the comment only marking strategy for a period of time. Students were encouraged to focus on the quality of learning. Lower ability students preferred the comment only approach however high achieving students resented a comment-only approach and preferred to receive a grade with feedback.

After issuing tests, students were asked to analyse what they knew and didn't know and to make a reflective entry on and 'what do I need to do now' into their personal record sheet⁴, log book or learning journals. The log book designed for this research with participants included personal record sheets in one half and a learning diary in the second half (Appendix 5). The learning diary was used by students to record thoughts and ideas that occurred as

⁴ The Personal Record Sheet provided a record of learning aims, comments and feedback from peers and teacher, targets and self-assessment (Appendix 4).

learning was taking place and they rated their classroom participation and enjoyment of learning. It was reported that this strategy made students and parents/guardians more aware of the learning taking place as parents/guardians were asked to sign off on student entries. Teachers expressed concern about the amount of time it would take to make entries however it is a good investment when the outcomes include higher levels of motivation, engagement and progress.

'...In terms of productivity, less content is covered when implementing techniques however when students get more familiar with the methodologies the pacing improves.' Teacher 1

An analysis of student log-books showed that students need to develop the language of reflection and evaluation. All students found it easy to record the learning outcomes. Comments such as 'I was good' are helpful but can be enhanced with an explanation. If students articulate the reason why their work was good, then they would internalise it more and build on this progress. A target such as 'make a menu better' is useful however it can be enhanced by writing down how. For example, ensure the meal is balanced; check the layout of the menu etc. These comments recorded in class would serve as aid-memoirs when completing the task at home.

'...Students were evaluating and critically reflecting on learning...' Teacher 1

According to the teachers' feedback, self-assessment strategies were beneficial.

'...getting students to review their test (which was graded) and isolate factors which were good and needed improvement. This appeared most successful as it involved students in evaluating their performance.' Teacher 1

Concluding remarks

The project set out to explore the use of AfL in a home economics context and the feedback data from the participating teachers roundly endorses the view that it can and does. Participant teachers developed a greater awareness of key AfL areas and experimented with a variety of strategies. The key to success with AfL is to adopt a consistent approach to its use and to attain the buy-in factor from all participants. Time taken to introduce AfL was seen as a major constraint however a whole school approach to AfL would result in the establishment of habits more swiftly.

Four key research questions were raised at the outset of this project.

- What factors currently influence home economics assessment practice?

High stakes summative assessment hugely influences informal assessment practice in home economics. The breadth of the curriculum is extensive especially at Senior Cycle and there is little time and space for creative learning within the current system.

- How can AfL principles effectively be applied in a home economics context?

In conclusion, a whole school approach to AfL would ensure student familiarity with techniques. Teachers can give more responsibility to learners and empower them in the

learning process. In a home economics context, AfL works effectively and in this project eight teachers experimented with strategies and designed resources specific to core curriculum areas.

- What are the main benefits of an AfL home economics classroom?

Students were engaged and motivated by the methods used and they took ownership of their own learning. When teachers shared responsibility for learning, they felt less pressurised. The approach was considered an enriching experience for students involved because it was easier and more enjoyable.

- What are the challenges to the application of AfL principles and the coaching of formative assessment in a summative assessment tradition?

Time taken to develop new methods of teaching and learning, to prepare resources and implement the strategies was an initial challenge to the process. However, as students became more familiar with the methods, it was less time consuming.

10. How this research contributed to my own professional development

This research project has significantly contributed to my own professional development. The improvement of classroom pedagogy and the desire to improve the quality of learning in my own classes were the key concerns at the outset of the project. The initial engagement with literature and research in the field resulted in the expansion of my knowledge in the areas of teaching, learning and assessment and the immersion in literature enabled me to make informed decisions about how I wanted to teach and be as a professional. My assumptions about the way things are and the way things can be were challenged and addressed as I understood that assumptions, beliefs and paradigms colour how one views and responds to situations. A heightened sense of self-knowledge enabled me to become a transformative change agent both in practice as a teacher and as an empowering and enabling researcher.

There were many professional benefits from this research study such as the heightening of my understanding of the process of learning and the expansion of my personal intuitive insight in relation to students' learning. This involves being consciously aware of one's power to take charge of the learning experience and environment, responding to the needs of students as they arise and empowering the students to engage with the process of 'learning to learn'. Students developed a greater sense of agency. The application of relevant theories in practice led to greater efficacy in my own teaching. I realised that the pedagogy I embrace in practice has a 'wash-back' effect on students as future citizens. The uncertainty of practice daunted me in the past but now I love to receive and respond to the unexpected puzzling questions and the multitude of non-verbal cues that reveal a variety of messages in relation to the students' understanding and level of learning. The rewards are wholesome as students learn with confidence, enjoyment and competence and the classroom environment is a transformative, creative and enjoyable space to be in.

11. How this research will benefit the teaching profession and the wider education community

There is potential to develop in students a greater understanding of the learning process and to give them ownership of their own learning. Open discussions with and between stakeholders (students, parents, teachers, managers) on the 'learning to learn' process can stimulate a greater understanding of how students learn. Student passivity is a feature of 'chalk and talk' style teaching approaches and active learning is a favoured and more productive pedagogical approach in terms of student outcomes and student learning. There is overwhelming consensus that student empowerment can have a positive impact on the teaching and learning milieu. It can aid the development of reflective skills in students where they think about their own participation and learning. Teachers have many responsibilities, activities to manage, individual learning needs to consider and observe as well as a plethora of administrative tasks to complete on a daily basis. Students can take responsibility and ownership for the learning, enjoy the process and reap the rewards. Time and 'space' for the creative process of learning are key ingredients to the attainment of successful learning outcomes.

Care needs to be taken to avoid falling into the trap of viewing AfL as a set of strategies or using AfL to keep records. The focus must remain on using the information to help learning. AfL involves using a different lens through which to view the learning environment. To be effective, everyone involved in the learning process would need to buy-in to the approach and take on 'working smarter and not harder'.

'There is a great change in one's role as a teacher. One is constantly watching the red, green and amber lights and changing plans to suit the dynamics in the classroom.' Teacher 2

The findings of this research are of value to the teaching profession. Schools can benefit from looking outward and seeing how other schools can interpret the same process and apply it to their own context.

'Schools do the same thing but can do things very differently...It is very important to learn from other schools to see how to do things better...I think it is really important to share all that.' School 1 Principal 1

Students accumulate a variety of learning experiences on an average day. A whole school approach to enhancing learning is recommended as teachers perceive learning from different perspectives. It is advantageous when schools operate as learning organisations and develop a shared understanding of pedagogical practice and plan for progression in pedagogy as well as content. Since the inception of this research project, one of the participating schools has taken a whole school approach to AfL. The main benefit of this teacher-led research project was that it enabled participant teachers to become more aware of pedagogical approaches that enrich and motivate learners. They were empowered to experiment with AfL on a small scale and to develop a context-specific approach. Rather

than receive information at an in-service seminar, they were facilitated to develop and create an approach that addressed the needs of their own learners and learning environment. The findings show that the research project contributed to their professional development and professional practice.

It would be of use to build on the momentum of this research project by contributing to a subject specific website and blog on AfL techniques. It would be of use to the profession to share ideas, research findings, resources and samples of good practice as they evolve. A supporting blog could provide a forum for the discussion of emerging issues, challenges and insights and the creation of new ideas that will contribute to a dynamic and evolving professional practice.

Acknowledgements

I wish to acknowledge the financial support of the Teaching Council and the positive engagement and contributions of the managers, teachers, students and parents of all participant schools.

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Appendix 1

The participants involved in this research project were presented with an AfL framework developed by Stiggins *et al* (2007). Three key questions were posed to stimulate thought, inquiry and action in relation to the process of learning.

- Where am I going? There are many elements to be considered when planning learning such as: the learning target/aim and learning outcomes, teaching methods, the method of assessment and the assessment criteria. A learning target or aim is a general statement of intent and learning outcomes are specific, clear statements of what a learner is expected to know, understand and/or be able to do. *Learning outcomes* are 'signposts for learning' as they give a clear and understandable vision of the learning target. Signposts generally communicate the distance to a certain destination. Signposts for learning indicate the desired target and information on how to get there. It is advantageous at the outset of learning for the student to know what modes or types of assessment will be used to determine the attainment of targets. Students also need to know in advance how a task will be judged and what an average, satisfactory, good, very good and excellent performance look like. Examples and models of strong and weak work develop students' understanding of the expectations and standard required. *Assessment criteria* also known as success and performance criteria, communicate to students what the expectations are in relation to learning and these indicators of achievement enable them to recognise when they have reached a learning outcome and how well they have achieved it. To involve the students in their own learning and to develop their understanding of the criteria, a prompting question such as: "How will you know that you have learnt x?" could be asked.
- Where am I now? (*Checking for understanding*) Well-designed questions can extract answers that provide information about gaps in knowledge and teachers can gain diagnostic insights into areas understood or misunderstood by analysing responses. In the planning of questions, it is wise to anticipate responses. Teachers also need to consider what to do with students' answers. "All answers, right or wrong, to be taken seriously, the aim being to develop thoughtful improvement rather than to evoke expected answers" (Wragg, 1997:25). *Classroom dialogue* can inculcate interactive feedback practice. The *traffic light* strategy can be used to check for understanding. Each learner has in their possession a set of lights, red, amber and green and they are asked to close their eyes and show a light that best indicates their level of understanding. The display of a green light indicates a good understanding, the amber light indicates some understanding and a red light indicates little or no understanding. An alternative method is to place a set of lights on each student's table. The lights are stacked with green on top at the beginning of the class and as the class progresses, the students are required to change the lights to indicate their level of understanding. The teacher gets a clear indication of how the learners feel about the topic in question and they can note who requires assistance. A teacher can create groups where those indicating a green light appraise and help others while the teacher pays special attention to those who displayed a red light or they may decide to re-teach a certain component.

- How can I close the gap? Regular, descriptive, formative *feedback* enables students to see where they are in relation to the learning outcomes. Feedback is effective when issued as clear, specific guidance on the next steps to be taken to make progress. Feedback should relate to the learning outcomes so learners can see for themselves where they are in the learning journey. A *learning diary/personal record sheet* or *log book* is a useful way of keeping track of learning. Students can be encouraged to take responsibility for setting their own learning goals, identifying strategies for achieving them and developing criteria that will inform them that the targets are achieved. A time frame for the achievement of targets is useful. Reflective and self-assessment skills are developed when using this strategy. The purpose of *self-assessment* is to enable learners to make judgements on their own work, to recognise progress and areas for improvement. Students can engage in dialogue with their peers in relation to learning and peer-assessment activities can provide valuable formative feedback to learners. *Peer-assessment* involves analysing the quality and accuracy of someone else's work, checking to see if it meets the learning outcomes, objectively comparing work to the standard and discussing how they arrive at their conclusions (Mc Sweeney, 2010:9)

Appendix 2

Seven Strategies of AfL Stiggins *et al*, 2007:42

Where am I going?

1. Provide a clear and understandable vision of the learning target.
2. Use examples and models of strong and weak work.

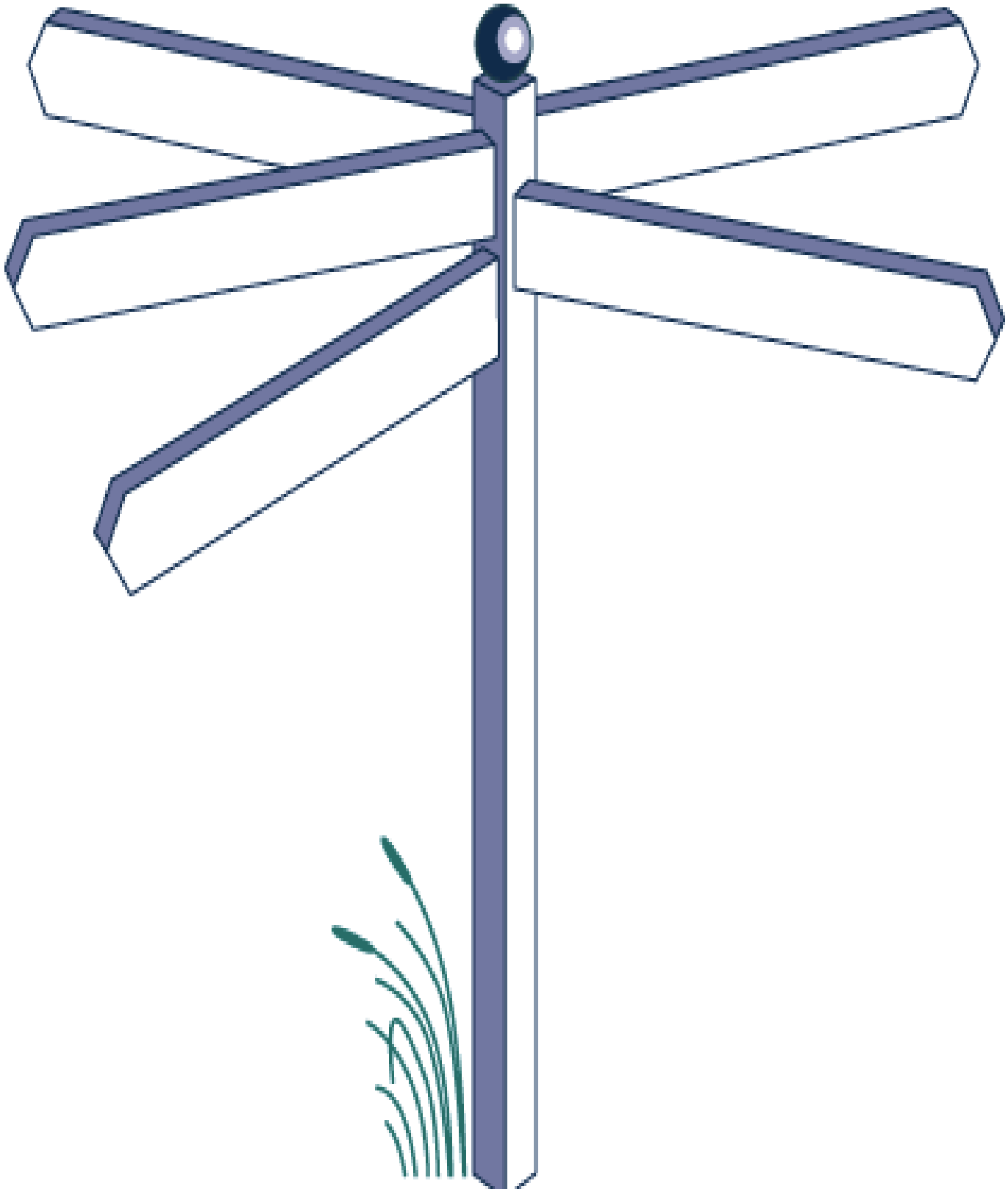
Where am I now?

3. Offer regular descriptive feedback.
4. Teach students to self-assess and set goals.

How can I close the gap?

5. Design lessons to focus on one aspect of quality at a time.
6. Teach students focused revision.
7. Engage students in self-reflection, and let them keep track of and share their learning.

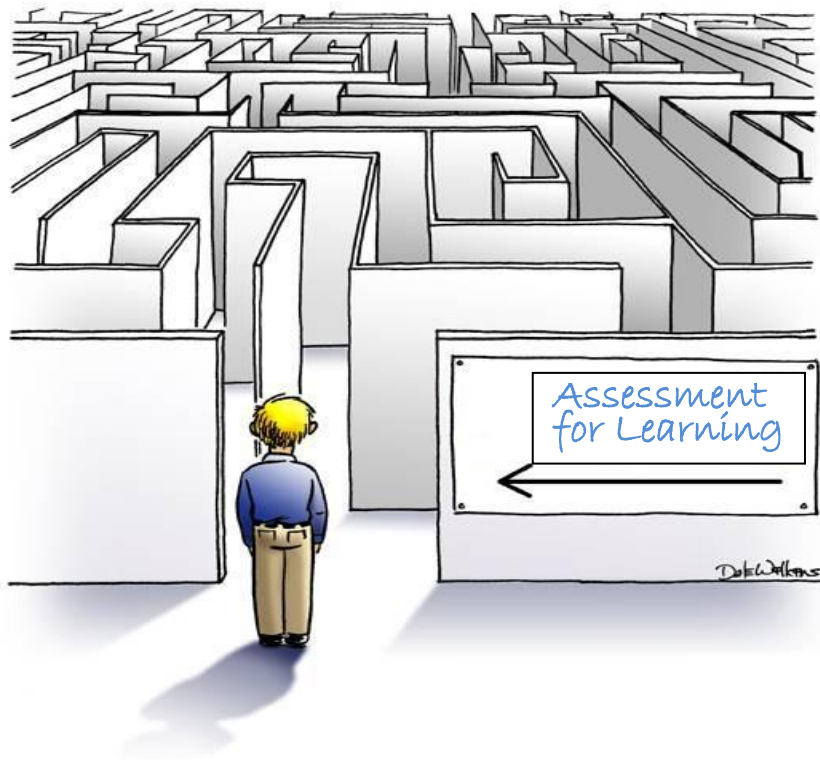
Appendix 3
Learning Outcomes



Appendix 4

Personal Record Sheet	
Name _____	Class _____
Topic _____	Date started _____
Learning aims of the assignment, including personal targets	
Clear learning aims recorded by learner in line with policy of clear understanding of purpose of task	
Guidance, agreements, changes	
Dialogue with teacher involving feedback is recorded by the learner along with any changes that result.	
Evaluation of completed assignments	
As a result of the feedback and self-evaluation, the learner identifies targets for improvement. These targets become one of the aims in the next assignment. Targets should be short term and attainable.	
Targets to improve next assignment	
Self-evaluation conducted after receiving written and/or oral feedback.	

Appendix 5



Name _____

Class _____

Part I of Log Book- Personal Record Sheet

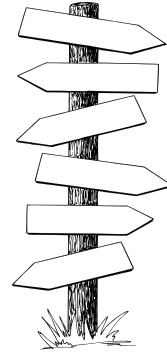
Learning aims

What is the general aim of the topic?

Record learning outcomes (what you are going to learn).

What do you have to improve on?

(Check homework corrections.)



Comments

What feedback did you get on this topic? (Comments made to you.)

What comments did you get from your peers (other students in class) and teacher about your work?



Targets

What are you aiming for?

How can you improve?

What do you have to do to improve or change in order to learn this better?



Self-assessment

Have you reached your target?

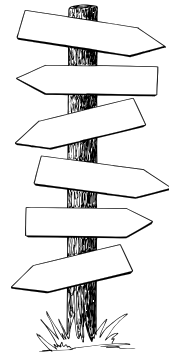
Have you improved? How do you know?

If you have not improved, what do you need to do to improve?



Part I of Log Book – Student Personal Record Sheet

Learning aims



Comments




Targets



Self-assessment



Learning Diary – Part II of Log Book

Date and topic	Rate how you took part in class today	Rate how you enjoyed learning in class today	What did you enjoy /not enjoy about your learning today?	Any other comment?
	<p>on a scale of 1-5.</p> <p>Excellent = 5</p> <p>Very good = 4</p> <p>Good = 3</p> <p>Satisfactory = 2</p> <p>Less than satisfactory = 1</p> <p>Why did you give yourself this rating?</p>	<p>on a scale of 1-5.</p> <p>Excellent = 5</p> <p>Very good = 4</p> <p>Good = 3</p> <p>Satisfactory = 2</p> <p>Less than satisfactory = 1</p> <p>Why did you give yourself this rating?</p>	