

The Traffic Lights Toolkit



A range of pedagogic tools to support development of student self-regulation, increased engagement and successful outcomes in higher education

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The authors would like to acknowledge the contributions to the project made by Karen Hilliger and Paulette Holmes (Business School, Canterbury Christ Church University), ??? (Library Services, Canterbury Christ Church University), the academic staff in the Section of Life Sciences (School of Human and Life Sciences) and the student partners who helped collate, analyse and interpret data for case studies: Summer Tredgett, Charlotte Akers, Kay Nash and Eleanor French.

For further information, contact details and resources for download, please visit the project website: www.canterbury.ac.uk/TLT



Welcome to the Traffic Lights Toolkit Guide

This guide is aimed at educators in higher education who are looking for effective and innovative ways to improve learning and especially to encourage reflection and ongoing self-assessment and improvement in learners at all levels. This guide is supplemented by resources and tutorials available at the Traffic Lights Toolkit website (www.canterbury.ac.uk/TLT) and we recommend using this guide in conjunction with the materials available there.

What is the Traffic Lights Toolkit?

The Traffic Lights Toolkit (TLT) is a set of learning support tools developed by an interdisciplinary team at Canterbury Christ Church University with the support of a HEFCE Higher Education Innovation Fund (HEIF) grant. The guide includes a theoretical framework and background to the tools as well as detailed instructions on how to use them, with different emphases, in a range of settings and situations, ranging from individual face-to-face tutorials to large groups. The toolkit includes three tools that build upon each other, but can also be used individually:

The Perception of Challenge Tool
The Quadrant Tool
The Rating Scale Tool

All of these tools have been designed so they complement each other. They work on the principle of allowing students to self-assess against skills or statements and then develop reflective practice and strategies for improving their skills in areas where they feel they are struggling. Each tool can also be used individually.

In what educational situations or settings will the TLT be useful for me?

The tools are highly flexible and adaptable and, depending on the desired aims, can be used in a number of ways, in any discipline in which the learning of skills is required. The Toolkit is particularly effective in:

- developing skills of reflection, self-regulation and self-assessment.
- supporting academic and personal development - engagement with the tool acknowledges prior learning and skills (green); opportunities for development (amber), and areas of potential challenge or perceived threat/risk (red).
- encouraging students to take increasing responsibility for their learning by engaging both the cognitive and affective dimensions.
- establishing a proactive approach to engaging students with their learning objectives and to enhancing and promoting resilience rather than waiting for difficulties to be encountered.
- promoting proactive academic strategies and skills.

The extent to which the TLT can be used for any and all of the above is determined largely by the context of the learning – i.e. group size, student/staff ratio, duration of the learning experience, assessment mode etc. This guide will present examples of how the tool can be used in a variety of settings and the benefits it can provide, as well as the challenges that different settings and contexts can present.

No doubt you will very quickly be able to think of applications for the TLT in your own practice. We hope this guide will help you to find the best way to make effective use of the Tools in developing your own practice and supporting learning.

The Traffic Lights Toolkit Team at Canterbury Christ Church University

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Introduction: Overview, description and rationale for the Traffic Lights Toolkit

“Supporting students to manage the higher education pedagogical landscape requires an emphasis on the development of self-regulatory skills in order to support student autonomy in learning.” Evans et al. (2016:9)

The aim of the Traffic Lights Toolkit (TLT) is to provide teachers and students with a flexible and adaptable resource that can encourage collaborative approaches to learning and teaching across a range of academic contexts. It has been developed to be accessible to students at all levels and can be applied to undergraduate and postgraduate learning to promote students’ direct and active involvement in the learning process.

The Toolkit has been designed to support students in developing the ability to self-monitor their learning and to be aware of and articulate their individual differences and learning needs in relation to the requirements of their programme of study. It is made up of three independent tools that can be used either individually or together to support and extend different aspects of student learning, particularly the development of learner autonomy. Little (2000) defines autonomous learning as being about how the learner relates psychologically to the content and process of learning. Definitions of learner autonomy often include concepts such as:

- responsibility or ownership of outcomes (*internal locus of control*)
- confidence in skills or ability to achieve (*self-efficacy*)
- engagement with student-led learning (*self-regulation*)

The Toolkit is based a number of key constructs drawn from the current research literature on what constitutes effective educational practice in Higher Education. Core characteristics of these High Impact Pedagogies (HIPs), and their impact on the quality of learning opportunities and approaches to learning are about co-construction and collaboration between staff and students:

Prior learning and transferable skills. Making the learning goals explicit to the learner and engaging them in dialogue about the learning process, which taps into prior knowledge and experience, and also fosters an incremental view of learning and a long term view of development of knowledge and skills is a central facet of the Toolkit. Active reflection on previous successes and positive outcomes creates a context where the possibility of transition of those insights to new learning environments is significantly increased. Inclusive pedagogy needs to embrace a wide range of differences and needs to be attuned to the impact of pedagogical initiatives on individual learners - acknowledgement of and respect for individual differences in terms of diversity and specificity of need (*Evans et al 2016:8; Pratt*).

Purposeful tasks – creating a learning environment and activities, which actively foster engaged student learning and learner autonomy. Designing and learning tasks and opportunities for students to develop self-regulation of their own learning underpinned by an understanding of individual differences in how effective learning takes place provide students with the opportunities to act autonomously and develop confidence through developing their ability to voice their opinions and increase their experience of agency within an educational context. We need to provide the student with opportunities to be autonomous, but also for them to acknowledge that experience of autonomous learning/practice.

Assessment practices which accurately measure meaningful learning, particularly the student’s skill in using self-regulatory approaches, and managing their learning needs within and across learning environments to enhance their autonomy and ability to draw on prior successes to facilitate transitions between modules, programmes and into work. Providing students with opportunities to self-assess, and to engage in evaluation of their perception of their own abilities are linked to their learner autonomy and enhanced confidence.

Key points: Principles and use of the TLT

The TLT can be adapted to working either with large groups, small groups or individual students. Common to the application of the tools across these different academic contexts is the notion of **self-assessment and regulation of learning**. Students self-assess against skill statements (academic, professional, technical, clinical). The tutor uses the tools to encourage students to adopt an incremental view of learning which facilitates engagement and perseverance in meeting perceived challenge and risks within their learning environment. Engagement with the tool establishes a climate of competence (green), opportunities for development (orange) and areas of potential risk (red) and overall a learning culture.

The toolkit has a strong student focus, aimed at supporting the articulation of specific, concrete and realistic goals, relevant to the student's immediate academic goals. Students can work through the Toolkit independently, or can be guided and supported in its use by lecturers and tutors, depending on the academic context in which it is being employed. The student identifies and articulates their personal learning needs and goals; clarifies the support they need to achieve those goals; and is responsible for monitoring and evaluating their steps towards those goals with the use of the Toolkit elements provided.

The emphasis of the approach is to start working with the student's understanding of their current academic context, and perception of progress and autonomy. Using the tools, students can identify their own learning strengths and areas in which they perceive potential difficulty or challenge; set learning goals aligned to their personal aims, and develop skills that enable them to be increasingly independent in terms of managing and engaging with their learning, such as tracking their own progress and changing needs as they learn.

The initial focus is on identifying strengths, previous experiences and successes and establishing a climate of competence from which they can constructively discuss aspects of new areas of endeavour that are presenting them with challenges. These ideas can be used by tutors, partners-in-learning, and placement educators who want to work in a way that promotes a climate of competence and an increased sense of agency, participation and engagement with those whose learning they are supporting. (*Building confidence in skills or ability to achieve: self-efficacy*); (*Engagement with student-led learning and self-regulation*).

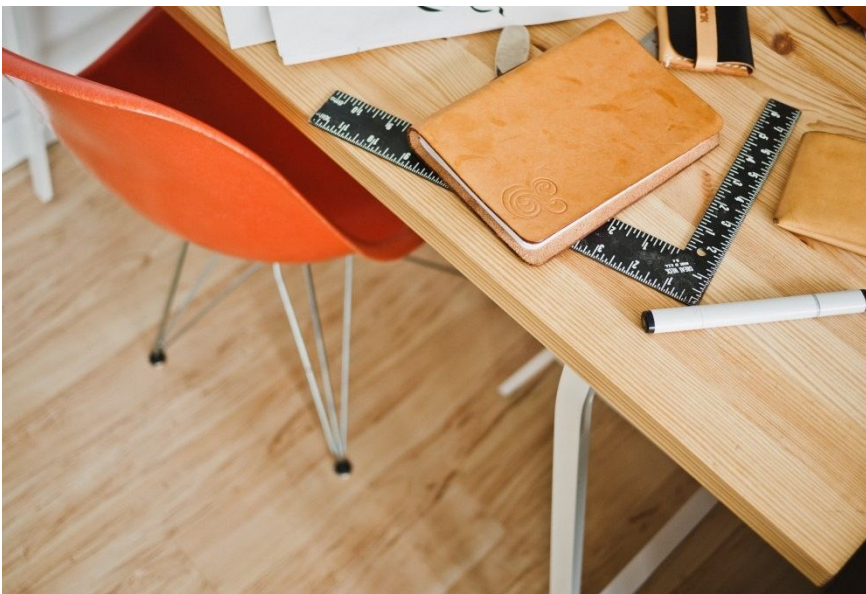


When using the Toolkit in combination with face to face tutorials, the process is an outcome oriented approach to help students identify and achieve through scaffolding a conversation about strengths, resources and constructing positive outcomes – the sequence of steps and associated questions used is always the same. This is integral to the aims of the Toolkit, as the purpose is to help students to take ownership of their learning by helping them to harness their personal resources and mine previous successes to facilitate and support positive change in areas they perceive as problematic or anxiety-provoking. The roles in these conversations are shared, the educator/facilitator is responsible for the process, the student is responsible for producing the content (statements; TLT colour coding; mapping onto the quadrant and if using the RS tool) goal-setting and taking action for change.

When used in a small group/tutorial context, a key factor in the success of this process is the language used within the conversations by the facilitator/interviewer. It focuses on the process of supporting positive change through scaffolded conversations and activities rather than on identifying and exploring specific problems. The aim is to find out and understand, through structured dialogue with the student, about factors that influence their responses, how they view and respond to challenge, and the resources they bring to specific learning tasks. Engaging in dialogue promotes metacognition by helping learners not only to verbalise but explain their thinking and thus increase the possibility of 'transfer' or generalisation of information to new contexts (McGuinness, 2005 p108). The facilitator/interviewer listens for the language used by the student to describe their perception of and response to the learning tasks, and then uses this language to formulate and ask additional questions. These questions elicit and build on the student's topics of conversation; their aspirations, specific goals, and perceptions of challenge in order to establish clear links to their values and resources in order to support the development of motivation, confidence and a sense of agency (their resources) in developing tangible steps towards solutions to their academic concerns.

In large groups, where individual tutorials or conversations are not feasible, the Toolkit can provide students with an impetus to reflect on their learning while at the same time providing tutors with information about their current skill level, learning progress and emotional response to learning outcomes. Tutors in higher education are often faced with groups of students that represent a 'black box' of past experiences, knowledge, skills, disabilities and other factors that are likely to impact on student learning. The PQRS Toolkit can provide valuable information for tutors while also encouraging students to reflect on their learning and take ownership of it by seeking support for areas that they identify as challenging or anxiety-provoking. For example, the Perception of Challenge (PoC) tool can highlight curriculum areas and/or specific learning outcomes for learners and tutors that trigger particular concerns in learners

(including emotional responses) and therefore may lead to resistance to learning and reduced engagement. Teaching can then be designed and delivered in a way that helps to minimize concern among learners. Likewise, students can identify curriculum areas that present a particular concern for them and anticipate and plan for them by setting aside dedicated learning time and/or requesting additional support, feedback or resources from their tutor. This can prove particularly useful in large group settings where students are introduced to threshold concepts and troublesome knowledge likely to elicit concern and anxiety (Meyer & Land, 2006).



When used in a large group, a key factor for success is generating and sustaining engagement, especially for groups not familiar with reflection and self-directed learning. In large groups, it is often not possible to regularly and consistently interact with students on a one-to-one basis to encourage engagement and continued use of the Toolkit. In these situations it is frequently the case that students who are already highly motivated and engaged will be most likely to use learning support tools like the TLT, but they also tend to be the students who are already likely to be the most reflective and thus not the students who might receive the greatest benefit from using the Toolkit. Ongoing engagement can be achieved in a number of ways, for example by tying the use of the tool into academic tutoring activities, even if these are group-based (e.g. as a conversation starter and to discuss skills development strategies in general in a group tutorial) or by integrating the tool into an assessment (i.e. not assessing responses to the tool itself, but rather making regular engagement with the tool an element of assessment).

The tutor's role is to work collaboratively with students to encourage them to articulate and define realistic goals which help develop a sense of agency and independence as well as encouraging conscious links with prior learning and transferable skills, and establishing a climate of competence/confidence. The facilitator needs to be able to encourage learners to facilitate student-led definitions of success and markers of progress on what they can do; where they are now, and to describe the change that they and others would notice as their confidence and skills develop. Getting them to identify what success means to them; what the markers of that success would look like so that they can recognise when they are making progress towards meaningful learning goals for themselves, leads to an increased likelihood of them perceiving themselves as more autonomous learners, and developing confidence in their own ability to learn. Tracking both perceived and actual autonomy of students over the course of a programme or in a specific skill acquisition highlights opportunities for the development of autonomy, and enhanced student perception of autonomy.

"While learner-centred approaches emphasising connectionist teaching approaches and real-world assessment are a feature of the high-impact pedagogies ... there is room for greater explication of the role of students in the learning process and as co-partners; this latter area is not well represented within the literature reviewed." Evans C, Muijs D, Tomlinson, M (2016).

"The colour scheme of the traffic lights tool allowed you to visually see what you're doing well at."

"[The toolkit] allowed me to think about things that I wouldn't normally consider when reflecting on my work."

"It broke down the areas that I needed to improve [on] - I found this really helpful as it then could fairly easily form the basis of a checklist of skills to work on, meaning they seemed like achievable goals!"

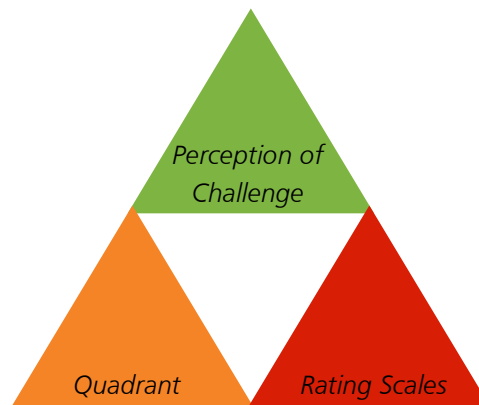
"Solely focusing on one issue and realising that I am improving gave me more confidence in my experiment and reduced my anxiety."



Outline and background for each of the three Tools comprising the Traffic Lights Toolkit

The core components of the Toolkit are the three Tools that can be used independently or together to support different aspects of the learning process:

- The Perception of Challenge Tool
- The Quadrant Tool
- The Rating Scale Tool



Perception of Challenge Tool

The Perception of Challenge Tool provides the inspiration for the name of the Traffic Lights Toolkit as it is based on student self-assessment against skills statements using the traffic lights colours green, amber and red to indicate their level of confidence: comfort (green), challenge (amber) or anxiety/stress (red). The primary purpose of this Tool is to focus on things that are working or going well, drawing attention to existing knowledge transferable skills and prior experiences of success. The Tool consists of a series of skills (or knowledge) statements which can be based on a professional skills framework (for example when using the Toolkit with a placement module) or can be written from scratch based on learning outcomes, learning expectations and/or to be aligned with assessments. A detailed guide on how to write effective statements for inclusion in this Tool, with examples, is provided in the 'Step-By-Step' guide at the end of this document. Students self-assess themselves against each statement, indicating whether they are already comfortable with this skill ('green'), perceive it as challenging ('amber') or if it causes anxiety or feelings of stress ('red'). When asking students to complete this Tool, the emphasis should first be on things that they are already comfortable with ('green') and therefore indicate prior experiences of success.

Example of a completed Perception of Challenge Tool

Phase	Statement	Colour	Rating	Notes/Thoughts
Project Preparation	1. I can turn a research question into a specific, testable hypothesis.	●	10/10	can do and have done this already
	2. I can design an experiment or project to test the hypotheses I have generated.	●	9/10	
	3. I know how to design my project so I can use simple and effective analysis on my results (e.g. statistical).	●	2/10	Don't know how to do this but know how to get direction
	4. I can search and read the scientific literature to find papers and methodology relevant to my project.	●	9/10	Have done this already
	5. I can effectively and confidently communicate and work with technicians, my supervisor and any external partners.	●	10/10	
Project Execution	6. I know how to use the laboratory equipment, reagents, software etc. needed to complete my project.	●	4/10	I know who to ask but don't know how to do this
	7. I understand the procedures around risk assessment and chemical safety relating to my project.	●	4/10	I won't know until the chemical samples are ordered in September
	8. I can manage my time effectively to carry out my work in good time.	●	5/10	I haven't had to do this with this equipment before but with help believe I can
	9. I know what to do when an experiment or piece of equipment is difficult to use or not working as expected.	●	10/10	
Project Presentation	10. I can carry out the statistical or other analysis suitable to the data I have generated.	●	5/10	I know who to ask for help if I get confused/stuck.
	11. I know how to structure and write a thesis according to the author guidelines of a scientific journal.	●	3/10	I should understand more after reading papers from said journal
	12. I know how to effectively present my work and results to an audience of my peers.	●	5/10	I need to improve on how fast I talk when presenting information

Always start with getting the student to identify those elements, which they perceive as ‘green.’ This step is crucial in establishing feelings of confidence and competence, and allows the conversation to establish and evolve within a ‘climate of competence’. It provides the student with a positive context to identify and acknowledge the elements of learning or of skill development that they feel confident with, and have experienced previous success in – transferable learning/skills; strengths and resources.

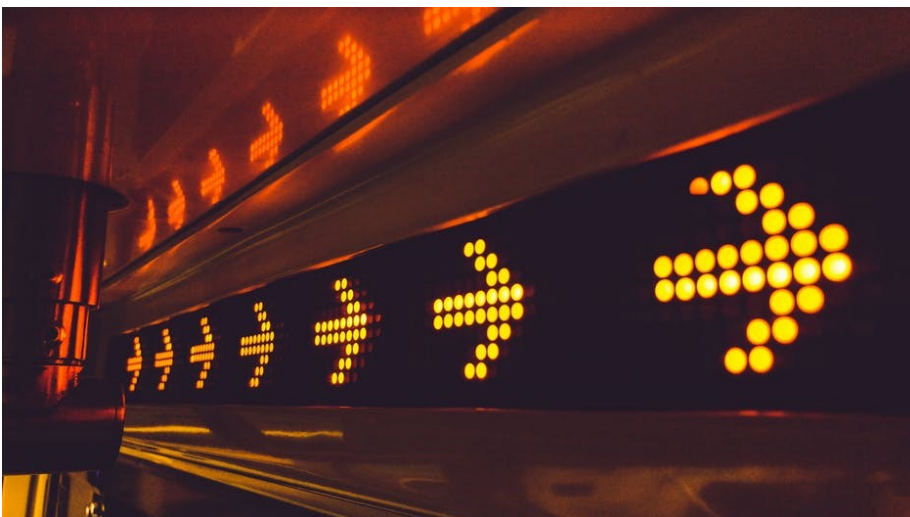
“Communication researchers McGee, Del Vento, and Bavelas (2005) describe this process as creating new common ground between practitioner and client in which questions which contain embedded assumptions of client competence and expertise, set in motion a conversation in which clients participate in discovering and constructing themselves as persons of ability with positive qualities who are in the process of creating a more satisfying life.” Franklin et al. (2012:21-22)

Once the student has identified statements they consider ‘green’ for them, they can move on to identify ‘amber’ and ‘red’ statements. In its simplest form, the PoC Tool only consists of the statements and a space where students can indicate their level of confidence. The Tool can be expanded to include a space where students can record their thoughts/feelings on each statement to help them articulate reasons for the colour they have indicated. Where Tools like the Quadrant and/or Rating Scale are not used in conjunction with the PoC Tool, a space to indicate a numerical confidence rating can also be included (examples at the end of this guide). This can help students (and tutors) to differentiate emotional responses from rational assessment of skills and abilities. A student may know rationally that they are good at something, but they may still be worried about doing it or dislike doing it to such an extent that it makes them feel anxious or stressed.

The Quadrant Tool (Q)

The Quadrant Tool is used to explore with students the situational influences on their need for support and direction. It provides a tangible starting point for structured discussions to take place between them and their tutors to identify what type and level of support they might need at different points in the course, or with certain elements of the curriculum. It consists of a two-dimensional grid or coordinate system in which students can place each of the self-assessment statements included in the Perception of Challenge Tool (see above) according to how much support and direction they feel they require at the time to develop these skills. The ‘Direction’ dimension of the Quadrant refers “to the learner’s need for assistance from other persons in the learning process and is a function of perception of competence in the subject matter and general need for guidance”, whereas the ‘Support’ dimension refers to “the affective encouragement the learner needs from others.” (see Pratt [1988] and Knowles et al. [2005:194]). This means that students who do not feel they can develop or improve a skill independently without some guidance as to where and how to find information and resources to do so should place this skill high on the ‘Direction’ dimension. Students who do not feel they can improve or develop a skill (or knowledge) without direct support and encouragement from a tutor, instructor, fellow student or technician etc. should place this skill high on the ‘Support’ dimension. Depending

on the confidence and needs of the student and their own perceptions, the statements may be closely clustered together or distributed broadly across the quadrant.

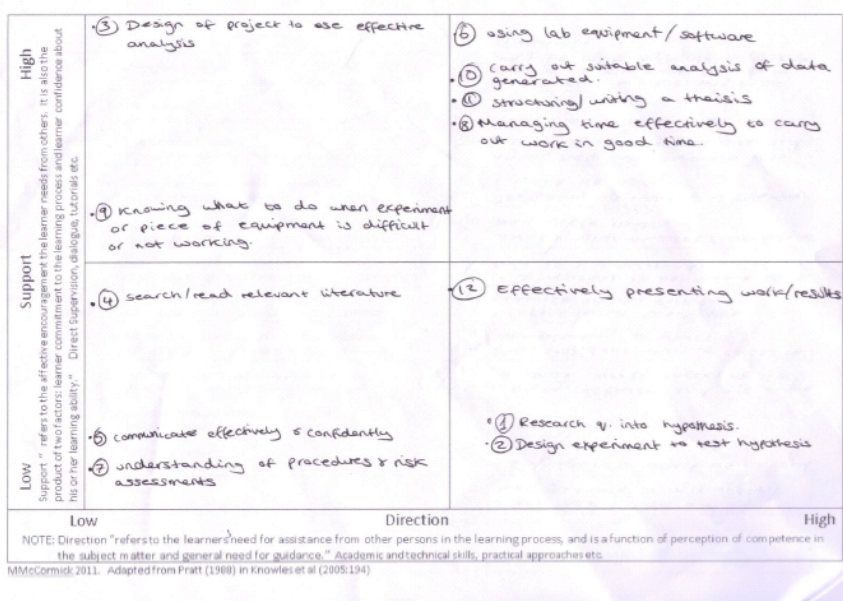


The Quadrant Tool helps students to visually track their progress and needs as they learn. It increases the sense of confidence, ownership and involvement of the students as they feel that they are not 'starting from scratch' but building new skills upon and around existing ones. It has become an adjunct to facilitating reflective behaviour and helping students to use the model to support their metacognitive strategies in talking about their learning and their responses to different tasks and demands. The use of this model can provide an interface in practice placement in negotiating levels of support for skills development, and has been a useful tool for negotiating between students and educators when there has been a divergence in perception about what may be appropriate. It supports positive conversations, which focus on tangible, 'doing' statements rather than on emotive responses which can result in defensive positions being taken by both sides, subverting constructive action.

Over time, if learning takes place as expected and students do develop and improve in their self-assessed confidence, the statements should start moving across the quadrant from the top ends of each dimension (top right of the Quadrant) toward origin of each dimensions (bottom left of the Quadrant). Since points in a coordinate system can be assigned values, the progress and movement of statements across the Quadrant can be quantified for each statement to measure progress in numerical terms if needed.

Rating Scale (RS)

The Rating Scale Tool is intended to help students develop an incremental view of learning, which supports them to engage with challenge and take risks that enable them to develop their learning. It helps students to identify positive actions they can undertake to address statements on the PoC Tool that they have identified as 'red', which present a particular level of challenge and possibly distress for them.



Example of a completed Quadrant Tool

The Tool allows students to rate one or more skills statements from the PoC tool numerically on a scale of 1-10. They are then asked to first identify and briefly articulate in writing where they currently see themselves in relation to this and what their limitations are and then to articulate the future situation where they have become comfortable and confident with this skill and what that might look like in terms of their activities and abilities. Finally, and most importantly, they are asked to identify and articulate any small but meaningful steps they can take to move from where they are currently to where they aim to be once they have developed a skill. This step is key in developing the ability of students to identify and articulate concrete actions they can take to improve their skills.

This tool supports positive conversations, which focus on tangible, 'doing' statements, which can facilitate constructive action, and a sense of ownership and agency in learning. The purpose of the (RS) is to support students who have identified certain tasks, skills and competencies as being 'red' – associated with feelings of lack of confidence/competence, and may be associated with or accompanied by language that indicates some anxiety or reluctance to engage. The (RS) uses scaling questions as a means to establishing self-determined goals to enhance creativity, commitment and self-regulation. The process of using the rating scales means the goal, or step towards a goal, does not need to be big, rather it needs to be small so that it constitutes a progressive approximation towards the self-defined useful and well-formed/articulated goal (specificity/focus).

A step by step guide to using the Traffic Lights Toolkit

This section of this guide provides a step-by-step procedure with detailed advice and examples of how to use the Toolkit in a variety of settings. As mentioned above, the Toolkit is highly flexible in the size of group, the contexts of the teaching and the types of the learning it can be used to support, and these will all influence decisions on which of the Tools to use and in which way. The guide provided here should therefore be viewed as illustrative rather than exhaustive.

STEP 1: Preparation – Context and aims

The Toolkit is adaptable to a variety of teaching contexts and situations and can be used to achieve a range of aims. The full suite of tools in combination are most effective when used in a setting where regular face to face meetings and tutorials with students are part of the process of engagement with the tool. Where the Toolkit is to be used with a larger group of students or with students where regular conversations are not possible, the tool can be used as a learning support tool and/or information gathering tool and students are typically asked to engage with it at their own initiative. In these situations, maintaining engagement with the tool can be a challenge. This can be encouraged by linking engagement with the tool to an assessment.

a) How much time do I have to brief students on the use of the Toolkit and how regularly can they be re-engaged?

Typically, at least 30 minutes are needed to brief students on the use of the Toolkit, but depending on the depth of the briefing and whether any of the toolkit is completed during the first briefing, this can be extend to up to 2 hours. Typically, a 1 hour session should allow a detailed briefing on the purpose and aims of the Toolkit and allow completion of at least the PoC Tool.

b) Am I using the Toolkit with a large or small group of students – and are regular one-on-one conversations with students about the Toolkit possible?

By necessity, when using the Toolkit with large groups of students, there is usually less scope for individual meetings with students to discuss the Toolkit. In this situation it is therefore crucial to either plan to facilitate such meetings as much as possible (e.g. as part of a tutorial schedule), or to use the Toolkit in a more limited way to gather information about student's perception of challenge before and after a learning opportunity (e.g. at the beginning and end of a module). In the latter case, one Tool (e.g.: PoC) may be chosen to be completed twice: once at the beginning of the learning experience, once at the end. This mode of use of the Toolkit provides much less of the impetus for reflection and ownership of learning by the students, but if students submit the Toolkit, this can provide valuable information on where students as a whole are struggling with or are anxious about concepts, skills and upcoming learning. This approach may also be useful in single-session or workshop settings where participants can record and evidence their learning and change ion confidence levels from the beginning to the end of the activity.



c) How regularly will the Tools be completed by students?

The more frequently a student completes one or more of the Tools, the more their reflective practice will be developed and the more closely they can track their progress as learners. However, there is a risk of reflection 'burn out' and students may become frustrated when they re-assess themselves repeatedly without making much progress. It is therefore highly recommended to link subsequent completion of the Tools used in any give situation to significant thresholds in learning. For example, you could ask students

to complete the Tools once at the beginning of a module, then once more when an important element of formative work is due and a third time before the summative assessment is due, so they have had time to act on the outcome of the previous engagement with the Toolkit and ideally have grown in skill and confidence. When using the Tools to support a placement-based module, you could ask students to complete the Toolkit as part of their preparation for placement/pre-placement tutorial, then again to reflect on their progress before a mid-placement review meeting, and finally prior to completion of their placement.



d) How will you ensure engagement with the Tool by students?

Engagement with any non-assessed element of learning can present a challenge. This may be especially true for students who are not familiar with reflective practice and have not yet internalized it as part of their learning practice. This would be especially true for students early in their studies. There are several ways of encouraging engagement with learning support tools like the TLT:

- Make completion of the Tools part of the timetabled contact hours of students, so students who attend are all completing the Tools.
- Emphasize that completion of the Toolkit is part of the personal and professional responsibility of students. This approach works best in a context where students already have developed some responsibility for their learning (e.g. in their third year of studies), where the learning is highly individualized and specific to the student (e.g. in placement or dissertation modules) and/or where regular one-to-one meetings can be used to build a personal rapport that makes students not want to 'let down' their tutor by not completing the Tools.
- Tie engagement with the Toolkit to assessment. For example, a portion of an assessment mark could be tied to whether or not the Toolkit was completed and submitted/discussed with a tutor. However, it is important that the actual responses of students recorded in the Tools are not assessed, as these are highly personal and subjective and not to be judged against any standard.
- Regular and repeated reminders delivered in taught sessions, tutorials or via eMail and other communication pathways. This is the least effective method when used on its own, but can support all of the other methods described above.

e) If you intend to collect data from completed Tools, how will this be achieved and how will data be protected?

Collecting data from completed tools may be useful in a number of ways. It can help improve and adjust ongoing as well as future teaching and can be valuable in illustrating to students in following years how their predecessors initially struggled with, but then overcame challenges and obstacles. In the event that you wish to store, analyse and use the data accordingly, ensure that students are informed of this and have the ability to withdraw their data if they so desire in accordance with best ethical practice. Follow all local ethics guidelines and regulations and keep data in a secure space and delete when no longer needed. Suitable online repositories may include Virtual Learning Environments (e.g. Blackboard, Moodle) and/or secure cloud storage services.

STEP 2: Choosing the delivery format appropriate to your situation

The format of delivery of the Toolkit can be adapted and modified based on the mode of engagement with learners (e.g. in one-to-one tutorials or in large groups) and the mode of delivery of learning (e.g. via online tools or as a pen-and-paper activity). The main decision will be whether to give students the Tools on paper or as digital files. We have created Microsoft Word and Excel template files that you can download and modify to your own requirements at the Traffic Lights Toolkit website (www.canterbury.ac.uk/TLT). Also available on the website are a number of scans and other examples of how the Tools have been used in the past.

The paper format lends itself particularly well to one-to-one tutorials and small modules with a limited number of learners (e.g. <30) and/or in situations where use of the Toolkit is mostly student-led and is not guided by or prompted by the tutor on a regular basis. In this format of delivery, the Tools are provided in a printed format and students use colours, pens and/or coloured stickers to indicate their colour rating and add comments, observations and annotations directly onto the sheets.

Benefits of paper-based delivery:

- Paper-based tools allow a more direct and tangible engagement with the reflective process. By handling and adding their personal handwriting to sheets, learners may feel increased ownership and therefore increased engagement with the tool.
- Paper-based tools can be used more creatively by learners and can be more easily personalized, adapted and modified
- Paper-based tools can be very effective in small-group settings where there is a shared group experience in completing the tools and discussions about the reflective process can emerge organically.
- Designing paper sheets is usually less complicated and does not require any sophisticated IT skills. Creating a digital tool using, for example, Microsoft Excel software, can require more preparation time and relevant skills.

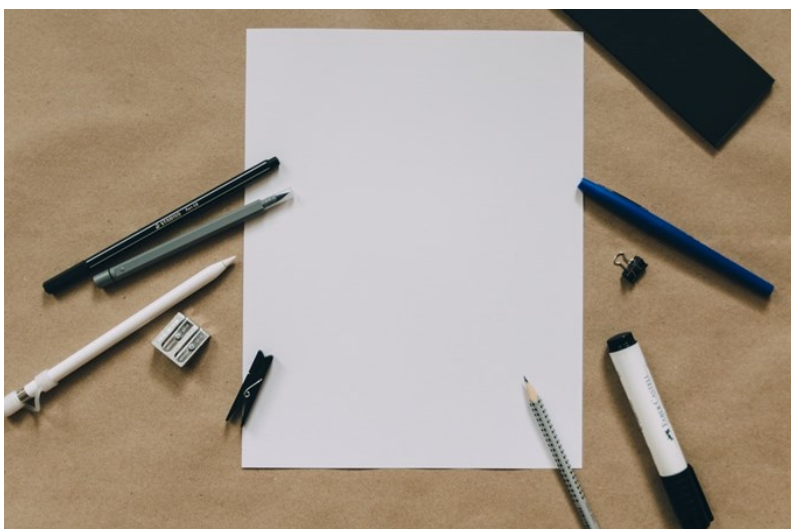
Benefits of digital delivery:

- Data collected from paper based tools has to be extracted into a digital format for large-scale analyses. This usually requires manual work, even if the sheets are scanned and then digitally deposited. Data from tools used in a digital format can typically be extracted, compiled and analysed much more easily, especially when this is an element of their design.
- Paper-based tools are easier to lose and forget when used repeatedly in tutorials etc. whereas digital tools can be made more accessible, e.g. via allowing remote access in secure virtual learning environments or online data repositories.
- In a digital format, tools can be more easily integrated into modern blended learning approaches and online assessments, for example as part of online portfolios, log books and reflective blogs.

- It is usually easier to make digital tools more accessible to learners with learning or other disabilities, e.g. by allowing font size etc. to be modified.

- Digital files can more easily be designed to incorporate guidance for students on how to complete the Tools, e.g. if they are meant to do this independently or if they miss a briefing session.

- There is a cost both monetary and environmental cost associated with printing copies of the tools.



STEP 3: Adapting the Tools for your situation

The PoC Tool

Typically, you will use the PoC Tool in combination with either one or both of the two other Tools in the kit (Quadrant and Rating Scales). This means that the first step in adapting the Toolkit for your use is to decide on how many statements to include in the PoC Tool for students to self-assess against and what the content of those statements will be. The number of the statements is largely determined by the complexity of the learning opportunity the Toolkit is linked to, the learning outcomes of the learning opportunity etc. Typically, the number of statements should be between 10 and 20, though deviations from this rule are possible (e.g. a small number of statements in a workshop setting). It is recommended that the PoC is not 'overloaded' with too many statements or with statements that related to activities not expected of the students until the distant future (e.g. months/years away). If students perceive the statements as too challenging or remote, or if there are too many of them, this can lead to increased anxiety in the students.

Depending on the goal in using the PQRS Tools with learners, the statements for the PoC tool can be either derived or taken directly from existing competency or skills frameworks (e.g. skills frameworks for professional practice and accreditation) or they can be designed to align with the learning outcomes of a learning activity. Similar to learning outcomes themselves, the statements are usually more effective when they refer to specific skills or abilities that are relatable for learners rather than abstract or theoretical concepts expressed in vague language (Kennedy, 2006).

The general rules listed below can help make the statements used more relevant to learners and the responses learners give using the PQRS tools more informative for tutors. The more individual guidance and support is given to learners while using the tool, the more flexible these rules become, because any ambiguity can be resolved in conversation. In fact, where the PQRS tools are used as part of an ongoing one-to-one tutorial or teaching process, ambiguity and complexity in the skills statements can be helpful in getting learners to wrestle with and reflect upon the ambiguity and complexity inherent in their learning and how engaging with these aspects is a skill requiring development in and of itself.

- Statements should be written in the first person active voice, present tense. This facilitates identification of the learner with the statements and makes reflection on their competency and confidence levels more immediate.

E.g.: "I can design and write a structured script for conducting an interview with a survey respondent."

- As far as possible, statements should refer to quantifiable skills. The more concretely a skill can be quantified or the clearer the 'measuring stick' against which progress can be assessed, the easier it is for the learner to formulate goals and assess their progress towards these goals relative to their starting point (e.g. in the Quadrant and Rating Scale Tools).

E.g.: "I can complete an interview with survey respondents from three different demographic groups using the provided structured script."

In this example, a learner can easily determine if an interview has been completed according to the script and how many of them have been completed, helping them with their reflection on whether they have acquired this skill. Contrast this with a more vague alternative: "I can complete interviews with survey respondents effectively, following all of the appropriate procedures." It should be noted, however, that there can be a learning context where ambiguity and dealing with that ambiguity is an essential part of the skills development process. For example, a professional skills framework may include statements relating to vague and not clearly quantifiable skills, e.g. 'effective communication with stakeholders and clients'. Such statements can be used with the Toolkit, but the responses of learners to these statements may be more difficult to interpret as they may reflect concern over the ambiguity of the statement rather than the skill(s) it relates to. Learners can and should be encouraged to articulate and express how such ambiguity may contribute to their sense of concern or challenge when reflecting on such statements.

- As far as possible, each statement should refer to one specific and distinct skill. If several skills are combined in one statement, the learner is likely to conflate these and this can cloud the reflective process. As with ambiguous skills statements discussed above, learners can articulate and resolve this through the reflective process.
E.g.: "I can follow safe working procedures to take a blood sample from a patient."
Compare with: "I can follow safe working procedures when taking a blood sample and know how to provide first aid or notify a first-aider should a patient pass out."
- Statements should not include unspecific quantifying or qualifying adjectives for a skill or ability. Learners will not all have the same interpretation of their meaning, so these may confound the reflective process. E.g.: "I can easily and quickly develop a draft proposal for a research grant." In this example, a learner may use the colour 'red' to indicate anxiety or stress and a low level of confidence. Without additional reflective commentary from the student, it is not clear, however, whether they are fundamentally concerned about the skill itself or whether they are merely reporting that they are not able to execute this skill 'easily' and/or 'quickly'.
- It may be helpful to group statements thematically, e.g. skills relating to 'placement preparation' and 'placement practice'. This can help students identify inter-related skills at different stages of working and encourages them to draw connections between their confidence and need for support on different statements.
- Remember to consecutively number each statement so the numbers can be used by students to place the statements on the Quadrant coordinate system (if PoC and Q tools are used together).

The finalized PoC Tool should include a space for students to add reflective notes so they can begin to explore the reasons for why they have selected a certain traffic lights colour for one of the statements (see also questions to use with students when completing the Tool in Step 4 of this guide). Optionally, depending on whether or not the Rating Scale Tool is used as well, a space for adding a numerical confidence rating in addition to the colour rating can be added (see example Perception of Challenge Tool on page 7 of this guide).

The Quadrant Tool

The Quadrant Tool requires no major preparation or modification before use. A standard two-dimensional coordinate system with or without an overlaid grid can be used (see example on page 9 of this guide).

The Rating Scales Tool

As with the Quadrant Tool, the Rating Scale Tool does not need any extensive preparation. The Tool itself includes a space or template scale for adding a numerical confidence rating from 1 to 10 (least to most confident) and three boxes for students to enter their reflective thoughts about the statement(s) they have chosen to rate using this Tool. The first box should ask students to express their current level of skill and reasons for this, the second should ask students to identify strategies and actions they can take to improve the skill and the final box should ask students to express what their work/practice will look like once they have developed competency for this skill. You should decide whether – based on time and resources available and the context – you want students to complete a Rating Scale Tool for each of the statements they have marked with red (anxiety/stress) or only for the one they are least confident in. It is not advisable to have students complete a Rating Scale Tool for every statement (i.e. including green and amber), because this will result in a large amount of work on statements where articulating steps towards progress are less imperative.

STEP 4: Briefing students on the Toolkit and individual Tools

Ideally, students will be briefed face to face on the use, utility, importance and ways in which the PQRS Tools are intended to support their learning. Establishing buy-in and engagement from students at this stage is essential to achieve the maximum impact with the Tools. The face to face briefing may occur with a large groups as a workshop/presentation or, ideally, with individual students in a one-to-one tutorial session. Alternatively, the briefing can be delivered remotely, e.g. via a video tutorial uploaded to a virtual learning environment. This latter approach can also be used to support any of the face-to-face approaches. At each stage of the briefing, the purpose and procedure for each of the Tools in use should be explained.

The Perception of Challenge Tool (PoC)

For the PoC Tool, it is important to lay out the relevance of the statements included in the Tool (e.g. are they linked to a professional qualification scheme, assessments, 'soft skills', learning outcomes etc.) so students are aware of how they are related to their learning. It is also important to clearly explain and define what the three colours they can choose represent (green = comfort, amber = challenge, red = anxiety/stress). The same applies to any rating scale used to give each statement a numerical confidence rating (optional). Finally, students should be encouraged to use space provided for qualitative reflective comments - this is especially important for students in disciplines where reflective practice is not as common. Students in these disciplines may need guidance and explanation around what the term 'reflection' means in the context of learning and how they might express their thoughts and feelings regarding some of the statements. Especially when presenting the Tools in a one-to-one or small group setting, engagement with the tool can be developed following a sequence of questioning as detailed below.

a) What does marking something 'green' mean for you? *Always start with the greens.*

Always start with getting the student to identify those elements which they perceive as 'green.' This step is crucial in establishing feelings of confidence and competence, and allows the conversation to establish and evolve within a 'climate of competence'. It provides the student with a positive context to identify and acknowledge the elements of learning or of skill development that they feel confident with, and have experienced previous success in – transferable learning/skills; strengths and resources.

Encourage them to write as they talk, the act of writing helps to anchor the ideas they access in this way, and allows them to record the words they choose when describing their 'greens.' The written record then allows the tutor to feedback to the student using their own words, which is a powerful way to acknowledge and reinforce what the student has reflected on.

Once they have identified the 'greens' follow that up by asking:

What do these 'greens' tell you about your strengths and transferable skills?

What else?

At the end of this first step, summarise the positive aspects that have come out of the initial conversation, as well as the strengths and resources the student has described as this highlights the experience of success.



The Quadrant Tool

Ask the student(s) to 'plot' the results of their PoC exercise onto a blank quadrant to explore with them the situational influences on their specific need for support and direction. The quadrant model provides a tangible starting point for them to identify their prior knowledge, learning and transferable skills; where their challenges might occur and for structured discussions to take place with them and their tutors to identify what type and level of support they might need at different points in the course, or with certain elements of the curriculum.

The quadrant also helps students track their progress and needs as they learn, increasing their sense of confidence and ownership as they feel that they are not 'starting from scratch' but building new skills upon and around existing ones. It helps to identify areas in which progress is being made, and where additional or ongoing help and support might be needed.

The Rating Scale Tool

It is important at this stage to encourage a detailed articulation/amplified detail of the goal and the small steps that will lead to its achievement, as the clearer the destination the more likely it is that the student will recognise it when they have arrived there. The tutor focuses their questions around what the student wants to aim for in the future around their identified learning needs and goals.

- Ask the student to identify on a scale of 1-10, (where 1= not at all comfortable or confident, and 10 = very confident and comfortable) where are they are currently on that scale, and to assign it a numerical value and place on the scale?
- Get them to describe what they are currently able to do in relation to the learning need/goal (record this in the box on the left hand side of the page – 'Moving from...')
- Ask them then to say where they would like to be on that scale by a certain point in time – setting a timescale gives a clear goal for aims to be worked towards, e.g. the mid-placement visit? (record this in the box on the right hand side of the page – 'Moving towards...')
- Next explore with them what will need to happen/ what small steps they will need to take:
What needs to happen for these things to be useful for you?
What could you do to take the first steps to making this happen? (planning and anticipating what needs to be done/ what would be helpful)
Is there something you'll need to do/think about to make sure you keep going in the direction you want to go?
It is very important for the next step that students explore and describe their parameters and markers for success. The facilitator can draw this out by asking questions such as:
How will you know if things are going in the right direction?
What are you hoping will happen as a result of you putting these actions into place? How will you know when you have achieved your goal?
Who else will notice these changes? What might they describe as being different?

Summarising and the concluding tasks

At the end of a session where a student has completed one or more Tools, get the student to briefly summarise the key points from the session, and evaluate them on the three parameters:

- Relief
- Enlivenment
- Competence to act

As a concluding task, ask students: "*Between now and the next time we meet I would like you to review your quadrant/rating scales so that you can describe to me what has happened in terms of the goals we have talked about today, and the changes that have occurred.*"

Three examples of the Traffic Lights Toolkit in action

“What we can do for each other as people, then, is first to believe in each other’s capability, and secondly to help each other find the devices, the highly individual ways, that will transform individual capability to power. Such help would be properly termed ‘empowerment’” (Ashford 1987 p150)

This concluding section of the guide contains three brief outlines of ways in which the Traffic Lights Toolkit has been used at Canterbury Christ Church University in various settings with students from a range of disciplines to support their learning. Case studies with more detail are available at www.canterbury.ac.uk/TLT.

Example 1: Using the PoC and Rating Scale Tools to support the skills development of life science students in an intensive series of five weekly two-hour laboratory sessions

Rationale: Students in the life science disciplines typically have to complete a dissertation research project in their third year of studies to graduate with Honours. Dissertation modules can present a significant challenge as they typically require a lot of organisation, time management, initiative, creativity and independent working from students, in addition to calling on all of the applied skills students have learnt up to that point. The TLT was used to help students reflect on and develop these skills in a second year module while they were tasked with developing a miniature version of a dissertation project so that this would prepare them for their dissertation project proper and also equip them with the reflective skills needed.

Choice of Tools: PoC and Rating Scale Tools

The PoC tool was chosen so students could self-assess against key research-relevant skills (e.g. ‘I can turn a research question into a specific, testable hypothesis’). The Tool included a colour and numerical rating for confidence against each statement and a space for qualitative reflective comments relating to each statement. The Rating Scale Tool was included to allow students to focus on development of one skill they found most concerning.

Mode of delivery: Digital Tools

The Tools were combined into one pre-formatted Excel spreadsheet that students could download and then upload once completed to an online log book (using a ‘Pebble Pad’ portfolio) that they used to record their work on the project. Engagement with the Tools was part of the online log book assessment – students who did not engage with and complete the Tool when required would lose part of the marks for the assessment.

Students were briefed on the use of the Tools and their purpose in the first week of the series of sessions in an IT room where every student had access to their computer and could complete the first set of Tools in the session, immediately after the briefing and with the support of the tutor.

Number of times Tools were completed: 4

Students were asked to complete one set of Tools in the first session, then again after each of two workshops where they developed their experimental designs over the following two weeks and then a final time at the end of the fifth week, when they completed their project. Except for the first set of Tools, they were asked to complete the Tools independently and upload them weekly.

Outcome: Integrating the TLT into the assessment helped to encourage engagement — 95% of students who completed the assessment also completed at least one of the tools and half completed all four Tools. There was also evidence to suggest that greater engagement with the tool was linked with higher achievement in the assessment. All students reported an increase in confidence for most or all of the skills statements included in the Perception of Challenge Tool and approximately four out of every five students who completed a questionnaire reported that the Tools had encouraged them to seek out support and guidance and that the Tools had helped them track their learning progress, among other benefits. They were also strongly supportive of the tool remaining a part of the assessment for future students.

Example 2: Using the tools to support pre-placement preparation in a 2 year postgraduate pre-registration clinical speech and language therapy programme.

Rationale: Students of the PGDip SLT are required throughout the duration of their programme to complete three periods of placement in clinical settings in order to become eligible for professional registration. These placements are significant for student learning as they provide a context for professional knowledge and skills to develop in real life contexts, as well as requiring the integration of theory to practice.

The PQRS Tools were used to help students develop skills of reflection, self-regulation and self-assessment, by providing a framework which could be used before, during and on completion of their placement to measure and describe their learning needs in relation to the competencies on which they would be assessed during placement. By working with the tools to reflect on their levels of knowledge and skills before placement began, they were encouraged to engage with their learning outcomes to acknowledge prior learning and transferable skills. They were then supported to identify the areas in which they were feeling less confident or experiencing some anxiety, and articulate the opportunities they saw for development and how best they felt their learning could be supported by their placement educators. Where areas of perceived challenge or threat were identified the tools were used to establish and promote a proactive approach, which rather than waiting for difficulties to be encountered, encouraged students to take responsibility for their learning by acknowledging and engaging both the cognitive and affective dimensions constructively to enhance learning and develop proactive academic strategies.

Choice of Tools: PoC, Quadrant and Rating Scales.

The PoC tool was used by each student to engage with their learning outcomes for placement and to identify areas of knowledge skills and practice which were working or going well, drawing attention to existing knowledge transferable skills and prior experiences of success. Once areas of competence have been articulated they could then move on to identify 'amber' and 'red' statements. The Quadrant was then used to support scaffolded conversations around the diversity and specificity of their learning needs and how these might best be supported. It provided a tangible starting point for structured discussions to take place between them and their tutors to identify what type and level of support they might need with certain elements of placement learning. Areas identified as being of particular concern to them, were then addressed through the use of the rating scales, to help develop an incremental view of learning, which supported them to engage with challenge and take risks that enable them to develop their learning by identifying a series of positive actions they could undertake to address statements which present a particular level of challenge and possibly distress for them.

Mode of delivery: Paper versions which are typically heavily annotated, and become part of the pre-placement learning.

Number of times Tools were completed: Variable



Outcomes: The students who completed the tools demonstrated considerable variety and creativity in the way in which they engaged with and used them to support their learning on placement. Responses to a questionnaire showed a range of results which provided evidence for positive changes in responsibility for and ownership of outcomes ([internal locus of control](#)); increased confidence in skills or ability to achieve ([self-efficacy](#)); and engagement with student-led learning ([self-regulation](#)).

Example 3: Use of the Traffic Light Tool with information literacy skills

Rationale: The Traffic Light Tool was adapted for use with a level 4 module concerned with developing academic skills. This module involved two sessions with a librarian, and the tool was used to help assess student confidence in a range of skills relating to their module assignment, all of which come under the heading of “information literacy.” As the librarian only saw the students twice, the tool was used in a simplified form.

Choice of Tools: PoC

Mode of delivery: Paper based Tools

At the start of the first session, each student was given a set of ten statements. These related to the use of different forms of information, each of which was a requirement of the module assignment (a report about gathering information and evaluating its quality). Each student was asked to rate their confidence in each area as green (confident), amber (unsure) or red (anxious). A1 posters were hung on the walls for each response, and the students attached the statements using sticky tack. Responses were anonymous, as there was no way to identify which individual students has provided each response. 14 students participated in the exercise.

Between the two taught sessions, the responses were analysed and the content of the second session adjusted to ensure that more time was given over to the skills which were reported as being the cause of greater anxiety.

Students completed some self-directed activities to practice some relevant skills between the two sessions. At the end of the second session, the traffic lights exercise was repeated. Each student was given the same statements and asked to rate them again. Staff made best efforts not to look at what students were doing, so that any unconfident students could feel safe to express that. 15 students participated. Another 2 students were present, but opted not to participate as they had arrived late to the first taught session and said they did not want to skew any results.

Number of times Tool was completed: 2

Outcomes:

The tool was useful as a way of shaping the material for the second taught session. It also allowed for a measure of how much student confidence had grown over the two taught sessions. Although this is not a direct measurement of actual skill, the evidence that student confidence had increased was encouraging. The lack of any red (anxious) responses after the second session was unexpected, but pleasing.

Students enjoyed participating in the traffic light rating activity, and it was clear that they were thinking hard about their responses to each statement. It would be interesting to use the tool in a more fully developed way to assess, discuss and improve individual students’ confidence in these skills. However, given the limited contact time available, this simplified adoption of the principles of the tool was highly beneficial.



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