The Hybrid Learning Model – A Framework for Teaching and Learning Practice

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***Abstract*—The Hybrid Learning Model is an interactional model that encapsulates teaching and learning in a plain English format and captures the processes from the learner and the teacher perspective. The Model and its capabilities in addressing the challenges associated with capturing and describing teaching and learning practice for dissemination and redesign are examined. The effectiveness of this Model in articulating, reflecting on, designing, evaluating and sharing academic practice is investigated. This draws on studies involving academic practitioners and students. Findings on the Model's suitability in influencing learner centred practice, enhancing the learning and teaching experience and assisting students to adapt to new learning situations are reported. Finally, the potential to develop the Model to provide teachers and learners with a simple, standards based framework to traverse the continuum of learning design is discussed.**

Index Terms—**Learning, Learning Design, Teaching, Reflective Practice**

I. INTRODUCTION

"Many teachers do not possess a vocabulary for articulating and sharing their pedagogical strategies and designs with others, particularly beyond their cognate discipline areas. [1]"

There are many benefits in sharing innovative learning designs for reuse and reapplication within and across varying contexts and disciplines [2] [3]. However, lecturers can find it difficult to share effective practice as many come from a noneducational background and traditionally find it challenging to articulate their learning designs in a precise and disseminable manner [4][5]. Practitioners commonly create learning activities based on common sense, rather than theoretical frameworks [6], hence it is difficult for them to describe their practice to peers for reapplication.

This paper reports the development of a Hybrid Learning Model (HLM) [7] which enables practitioners to define and record their teaching and learning practices in a generic and comprehendible manner. The strength of the HLM in its ability to spark reflection regarding teaching and learning practice and the ability to enlighten practitioners to design from the perspective of the learner [8] is investigated. A number of teacher and learner perspective HLM use cases will be examined.

II. OVERVIEW OF THE HYBRID LEARNING MODEL (HLM)

The Hybrid Learning Model is based around straightforward concepts and uses simple language to allow practitioners to easily communicate and share teaching and learning practice in a generic and formalised structure.

The HLM is based on and adapts the University of Liège, LabSet project's '8 Learning Events Model' (8LEM) [9][10] and is enriched with a vocabulary of generic 'learning activity' verbs derived and adapted from Bennett [11], University of Wollongong.

The 8 Learning Events Model provides a pedagogically sound framework for standardising teaching and learning activities in a streamlined structure. The 8LEM proposes that there are eight specific ways referred to as 'Learning Events' of learning/teaching that the teacher or learning designer can choose from at any point in the development of learning activities [9].

Each of the eight learning events (Fig. 1) is expressed in iconographic terms that depict the basic teacher - learner interaction and each event is complemented by a closed list of associated verbs for typical teacher and learner activities.

The Model is supported by a set of prompt cards that provide a tactile environment to aid reflection and design. To facilitate the modelling process, these simple two-sided flash cards each display the learning event on one side (Fig. 2) and associated relevant teacher/learner verbs on the other (Fig. 3). A number of visual aids were incorporated into these flash cards to provide reinforcement of the interaction type and the distinct learner and teacher roles.

The resulting enriched 8LEM sequences, depicting learning events and teacher and learner specific verbs are further annotated with appropriate contextual information including objectives, resources, environments and other relevant prompts and recorded in a mapping grid template.

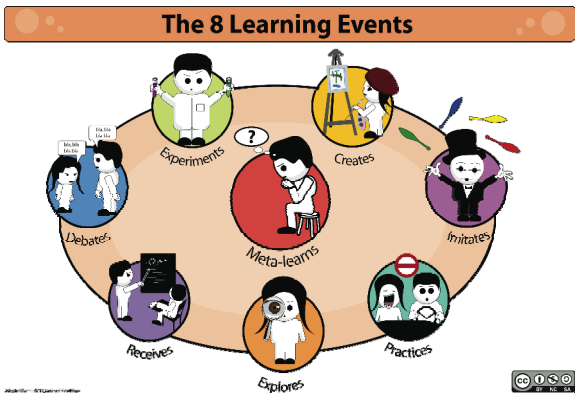

Figure 1. The 8 Learning Events

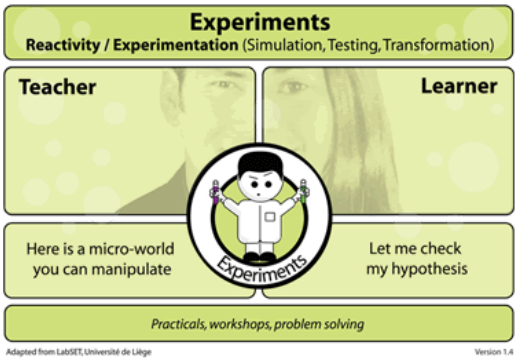

Figure 2. Example of flash card (front)

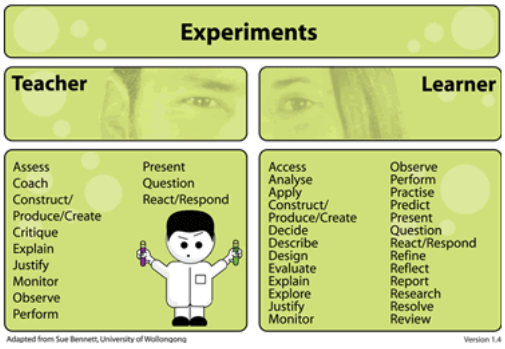

Figure 3. Example of flash card (back)

Activity/Task - Objective	Learning Event		Teacher's Role	Learner's Role	*Learner Prompts*	Tools and Resources	Other Comments
Students are asked to research the seminar topic and asked to find appropriate and current resources to bring to class.		**EXPLORES** (personal exploration by learner, e.g., literature reviews, Internet searches, information handling)	Coach	Research	*...the topic and seek out resources*	Internet and online resources, newspapers and other media.	
			Research	Monitor	*...the press consistently*		
			Review	Review	*..the press and other media*		
Students attend class and should be prepared to lead, participate and be ready to ask/answer at least one question on the topic.		**DEBATES** (learning through social interactions, collaborative, challenging discussions, e.g., f2f debates, online discussions)	Assess	Reflect		Props available for use: whiteboard, blackboard, flipchart. Evidence of research, newspaper clippings or other resources.	2 students are chosen to lead the session, others are expected to participate and ask and answer questions.
			Evaluate	Discuss			
			Monitor	Question			
			Observe	Explain			
			React/Respond	Debate			
			Question				
Academic recaps on what has been discussed, and provides feedback on what material was most appropriate and why.		**META-LEARNS** (self reflection)	Explain	Review			Students should be in a better position to choose more apt and appropriate materials for future seminars.
			Discuss	Assess	*...better what resources to choose*		
			Refine	Critique	*...material in order to choose more valuable*		
				Evaluate	*...worth of material*		

Figure 4. Mapping grid

In order to share practice it is important that the output from the capturing process is visual, concise and transparent without the practitioner requiring a background in educational design to interpret [12].

The mapping grid provides a rich visual reference framework that is concise and structured and depicts the process in terms of roles and expectations from the teacher and learner perspective.

Fig. 4 shows a learning activity that was captured with the mapping grid during the pilot of the HLM.

III. THE MODEL IN ACTION

In the initial development stages of the Model, a facilitation approach was used and was carried out in a variety of settings. This involved practitioners describing a teaching activity using the HLM as a guide. Following a brief overview to the modelling process and the HLM, practitioners were provided with a set of flash cards. Using a lesson plan as a reference point, the teacher selected appropriate learning events to describe their practice.

Once an overall sequence of learning events had been chosen, the practitioner then turned over the flash cards one by one and selected the verbs that accurately conveyed both their own activities and that of their learners within each individual learning event.

When more than one verb per role was selected, the practitioner was encouraged to consider if these activities formed an asynchronous sequence or an overall synchronous interaction. This additional annotation provided a useful granular interaction sequence within the learning event. At the end of this process, the facilitator transcribed the model onto a mapping grid template, along with relevant contextual information, for review and reflection (Fig. 4).

The use of the cards in an informal setting, e.g., over coffee in the staff common room, allowed practitioners to choose specific learning events and verbs in a relaxed manner. This usually resulted in further experimentation

and reconsideration of both the sequence of events and their choice of verbs to describe learner and teacher roles. Observations of practitioners using the cards suggest that the overall process and the physical cue cards promote reflection and ongoing questioning when considering and articulating teaching practice.

Practitioners were able to personalise the process and use the cards to express their practice in terms of actual processes and interactions whilst clarifying expectations.

IV. USE CASES

The Model has provided a common design language for face to face and online activities. The initial development and evaluation stages highlighted the simplicity and universality of the concepts and language used. This resulted in the identification of a number of added value use cases. These include:

- Raising awareness of teaching and learning processes and in particular the learner perspective.
- Reflecting on, evaluating and reviewing current practice.
- Planning and designing course materials/learning activities.
- Assisting students to adapt to new learning situations by clarifying expectations and processes.

V. PRACTITIONER EVALUATION OF THE HYBRID LEARNING MODEL

The Model and its use in the above scenarios has been evaluated by a sample (n=51) of teaching staff, teaching support staff and staff developers in both Higher and Further Education Institutions. A number of complementary research tools and measures were used to evaluate the use of the Model including interviews, closed and open response questions, and participation in focus groups and workshop settings. The findings from the initial evaluation of the HLM with practitioners are outlined in Table 1.

A. Articulation of Practice

In order to share teaching and learning practice it was essential to develop an effective mechanism to allow academics to articulate their existing practice, in particular their interaction with learners. Evaluation to date indicates that the HLM enables practitioners to verbalise their practice and analyse their role and that of the learners in an explicit and efficient manner.

Over 80% of users stated that they found the model useful/very useful as a method of recording practice (82%). One member of staff commented that the Model was:

"Useful to help us explore applications of technology to our teaching in meaningful ways and to help us share that with the other staff."

Just under 80% stated that the Learning Events used to articulate the learning activity that they were describing provided a 'very accurate/accurate description' of the teaching and learning process (79%).

TABLE 1:
OVERALL PERCENTAGE USER EVALUATION RESPONSES FROM THE PRACTITIONER PERSPECTIVE (N=51)

Recording Practice *How useful did you find the model as a method of recording practice?*			
Very Useful 35% (n=18)	Useful 47% (n=24)	Quite Useful 6% (n=3)	Not Useful -
Unsure 10% (n=5), Missing 2% (n=1)			
Ease of Use by Others *How easy do you think your colleagues would find using the model to describe their learning activities?*			
Very Easy 14% (n=7)	Easy 41% (n=21)	Quite Easy 14% (n=7)	Not Easy 2% (n=1)
Unsure 29% (n=15)			
Describing Teaching and Learning Processes *How well do you feel the **learning events** that you have chosen provide an accurate description of the teaching and learning processes within the learning activity?*			
A Very Accurate Description 18% (n=9)	An Accurate Description 61% (n=31)	Quite an Accurate Description 14% (n=7)	Not an Accurate Description -
Unsure 4% (n=2), Missing 4% (n=2)			
*How well do you feel the **verbs used to explain the learners' role** provide a good description of the teaching and learning processes within the learning activity?*			
Very Good Description 37% (n=19)	Good Description 51% (n=26)	Quite a Good Description 8% (n=4)	Poor Description -
Unsure 2% (n=1), Missing 2%(n=1)			
*How well do you feel the **verbs used to explain the teachers' role** provide a good description of the teaching and learning processes within the learning activity?*			
Very Good Description 31% (n=16)	Good Description 53% (n=27)	Quite a Good Description 10% (n=5)	Poor Description -
Unsure 4% (n=2), Missing 2% (n=1)			
Reflection on Practice *How useful did you find the model to reflect upon your chosen activity?*			
Very Useful 31% (n=16)	**Useful** 47% (n=24)	**Quite Useful** 6% (n=3)	**Not Useful** -
Unsure 14% (n=7), Missing 2%, (n=1)			
As a result of using this model, do you feel it has helped you to think any differently about the learning activity that was used?	**Yes** 71% (n=36)	**No** 29% (n=15)	

Another benefit identified was the ability to break a complicated concept down into usable basics and create a visual timeline of tasks within the learning design. As one practitioner described:

"It helped break things down into a sequence – [it] makes lesson planning more fluid."

The use of the universal concepts and language adopted by the model was a further benefit identified in workshop scenarios. Session observers noted that staff were often much more open and relaxed articulating their practice when using the model as a reference point. It was also noted that discussions around the precision in the

meanings of verbs prompted open sharing of practices and debates about aspects of students' experience.

The developed Model has added value, in that, in addition to capturing and recording teaching and learning processes it also explores and makes explicit both the learner and teacher role within those processes. This has provided a simple and effective framework for practitioners to refer against. Investigations to date indicate that the concepts used and the modelling processes developed are transparent, universal and widely understandable, providing a means to capture rich details of effective practices.

B. Reflection Impacting Re/Design

Early investigations of the HLM identified that users found the concepts and approach undertaken facilitated self reflection on the practices that they were modelling.

The simplicity and nonjudgmental nature of the Model encouraged the team to develop the use of it as a means of assisting the reflection and design of learning activities. Evaluation of the Model indicated that it provides a safe environment for the practitioner to analyse, reflect and evaluate the effectiveness of their teaching:

"It is helpful to be more aware of what I do and in what order. Reflection!"

The majority (78%) of staff across institutions stated the model was 'useful'/'very useful' for reflecting on their chosen activity and 71% agreed the modelling process encouraged them to think differently about the learning activity, stimulating pedagogic creativity:

"Yes - it has shown me learning events/verbs which maybe I am not using as much as I could/should be. It's made me think more of varying activities in the lab."

It is envisaged that the Hybrid Learning Model will provide practitioners with a pedagogical framework that encourages teachers to incorporate a variety of tasks within their learning designs and encourage them to take calculated risks in introducing multifaceted learning experiences to the learner.

C. Design Aid

Although the Model was initially developed for analysing and deconstructing learning activities, many users have recognised the potential of the model for designing/constructing learning activities. Suggested applications for the curricula design aspect of the model included; an aid for lesson planning, a reflective/evaluation tool and a design aid for new teaching staff and teacher training:

- *"Prior, my design process was more ad hoc. This is more structured."*
- *"It creates a logic in planning teaching…. It provides a framework for evaluation."*
- *"I believe it can be developed into a useful tool for people new to teaching and explaining what…they are or should be doing."*

The Model is a discreet change agent for enhancing the students' experience by inadvertently prompting reflection and improving teaching practice.

"Yes, I will look to include more opportunities for debate and learner interpretation and reflection in elements of my lectures and seminars."

Practitioners' response to the model has been very positive with 72% indicating that they would use the model again with the remainder, 28%, indicating that they would consider using it again.

D. Awareness of the Learners' Role

Usage and evaluation of the Model also clearly focused attention on the learner role, not just that of the teacher/academic practitioner. Users felt that engagement with the Model made them more aware of the learners' role and efforts, or as one commented it made them "look at the learner perspective with fresh eyes".

Table 2 highlights practitioners' percentage responses to a series of closed set evaluation questions. Eighty per cent and over of those who used the Model were in agreement that the learners' role was made more explicit, and that it provided them with a greater understanding of both the learner *and* the interaction between the teacher and learner.

These findings were strongly supported by open responses made by staff including:

- *"Made me think of just how many different aspects there are to the learner's role."*
- *"Helped me focus attention on what we do and reason why we do it… focus on what exactly we are wanting the learner to do."*
- *"Made me think about balance of expectations versus balance of activities."*
- *"Encouraged me to think more clearly about what is expected of the learner."*
- *"It clearly outlines the various steps involved in the learners' role – thus indicating the amount of time/effort on the learners' parts."*

VI. LEARNER EVALUATION OF THE HYBRID LEARNING MODEL

Focus groups with students allowed a comparison of student and teacher developed models of the same learning activity to be considered. The results from these sessions confirmed that learners understood the terminology and concepts of the learning events and activity verbs (Table 3). They found the Model easy to use and expressed their experiences in a consistent manner to that of the teacher/academic practitioner.

An initial study has been undertaken into how teacher developed HLM models can be used to support students participating in defined learning situations, such as seminars, case studies, group work and practicals for the first time.

TABLE 2:
PERCENTAGE USER RESPONSES (FROM PRACTITIONER PERSPECTIVE) RELATING TO ASPECTS OF THE LEARNERS' ROLE (N=51)

Use of the model has made the learners' role more explicit to me	85% (n=43)
The use of the model provides me with a greater awareness and understanding of the learners' role	87% (n=44)
Use of the model has provided me with a greater awareness of the nature of the interaction between the teacher and the learner	80% (n=41)

TABLE 3:
STUDENTS' INITIAL REACTION TO INTRODUCTION OF MODELLED ACTIVITY (N=66)

How easy was it to understand the concepts presented in the modelled activity?			
Very Easy 32% (n=21)	Easy 38% (n=25)	Quite Easy 20% (n=13)	Not Easy 6% (n=4)
Missing 4% (n=3)			
How useful will the modelled activity be in preparing for your seminar sessions and compiling your final portfolio?			
Very Useful 6% (n=4)	Useful 30% (n=20)	Quite Useful 46% (n=30)	Not Useful 2% (n=1)
Too early to say 12% (n=8), Missing 4% (n=3)			

TABLE 4:
POST ACTIVITY FEEDBACK FROM YEAR 1 BSC MARKETING STUDENTS UNDERTAKING A REFLECTIVE PORTFOLIO ASSESSMENT (N=50)

The modelled activity helped me to adapt to completing my portfolio		
Strongly Agree 8% (n=4)	Agree 84% (n=42%)	Disagree 8% (n=4)
I *would like other modules / learning activities to be modelled in this way to help me to adapt to new learning situations*		
Strongly Agree 22% (n=11)	Agree 44% (n=22)	Disagree 26% (n=13)	Strongly Disagree 4% (n=2)
Don't Know 4% (n=2)		
After seeing the modelled activity I needed to contact my lecturer to find out more about compiling my portfolio		
Strongly Agree -	Agree 10% (n=5)	Disagree 68% (n=34)	Strongly Disagree 14% (n=7)
Don't Know 8% (n=4)		
Are you using (intend to use) the modelled activity in preparing your portfolio?		Yes 78% (n=39)	No 22% (n=11)

For this study, an HLM developed model to describe a specific learning and assessment activity (a reflective portfolio) was presented to a class of BSc Marketing (Year One) students as a walkthrough animation and as a summary text grid. The students were asked to evaluate the usefulness of the presented model immediately after its introduction and again at the completion of the portfolio task. A set of research questions were developed and were used to capture this information and learner feedback from these evaluations is presented in Tables 3 and 4.

The following five statements were ranked highest by learners from a list of ten to describe the usefulness of the model:

1. It provided an awareness of what is expected of me.
2. It provided a clear outline of what was expected.
3. It defined the role of us (the learners).
4. It broke down the activity into understandable parts.
5. It simplified what we had to do.

VII. CONCLUSIONS

The developed HLM provides practitioners and learners with a simple to use and universally understandable method to articulate the human aspect and social interactions involved in the teaching and learning process from both the teacher and learner perspective.

The use of the HLM offers the opportunity for academics to reflect on their current practice and can assist in responding to changing learner contexts. The Model can also be utilised in a learning design context as a common design language that is suitable for practitioners and learners in both a traditional and online context. It has also proved valuable in providing modelled activities that can be used to help students to adapt to new learning situations and to clarify expectations that teachers have of them.

The modelled activities produced through the use of the HLM can be viewed as artefacts that formalise and provide a reference point from which to reflect upon academic practice. They provide a straightforward communication channel of teaching and learning processes, to include normally tacit/unspoken interactions in the form of learning design process models.

The Model, in itself, does not transform teaching practice but provides a framework for academic practitioners and students to examine teaching and learning scenarios in a novel way. HLM mapping grids allow for clarification and consideration of processes, roles, expectations, values and assumptions [13] in academic practice.

In this way the HLM is a potential change agent, in that it enables the creation of simple, yet effective artefacts for teaching and learning that are understandable across the various stakeholders in Higher Education. These simple aids prompt interrogation and a deeper reflection and consideration of processes, interactions, roles and expectations involved in teaching and learning. They can also be the catalyst for identifying opportunities, resources and technologies for transforming and improving practice, e.g., formalisation of learning design practice, revision/modifications to enhance current practice and provision of artefacts to promote discussions among course teams and with students.

VIII. FUTURE DEVELOPMENTS

The development of an electronic version of the HLM modelling process will provide a more automated, independent method of user reflection and articulation and an automated generation of relevant outputs.

The design of such a user interface is a creative challenge however, as some of the key benefits of the flash cards relate to the inherent flexibility of use and implicit self reflection that the informal and hands-on nature of the cards promote. The use of an electronic modelling process will permit more complex learning scenarios, including parallel learning events to be described and represented.

An added benefit of an on-line data capture process will be the simple incorporation of rich profile information such as Laurillard's Media Types [14] to resources used within the Model.

A review process of the pilot implementations of the HLM in the use cases described above will allow a formal

data model to be articulated. The formalisation of the underlying data schemas will provide the necessary foundation for the Model to act as a transition tool across the learning design continuum. This approach will permit the HLM to formally interact with other learning design tools and schemas to, for example:

- Import an IMS learning design artefact [15] and articulate it with a social context to assist teachers and learners in its use.
- Allow a practitioner to formalise and structure their practice in readiness to develop a defined learning resource within a learning design tool such as LAMS [16].

Finally, the exploration of additional use cases of the HLM will be investigated. The potential for the Model to be used as a research tool to capture both learner and teacher perspectives of the learning process, in particular is an opportunity to exploit the inherent ease of use and conversational nature of the Model reported by both learners and teachers.

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