AN EXAMINATION OF PRE-SERVICE TEACHERS’ ATTITUDES TOWARDS THE USE OF VIDEO AS A PROMPT FOR REFLECTION

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Abstract

The rationale for this study was to investigate pre-service teachers’ attitudes towards the use of video as a prompt for reflection prior to their school placement experience. Prior research (McKenzie, Santiago, Sliwka, & Hiroyuki, 2005; Musset 2010) highlights the important link between teacher preparation and student outcomes, thus intensifying the investigation of teacher preparation programmes. The use of video formed an integral part of a lab-based practicum experience - designed from the perspective of focusing on a number of high leverage core practices of the beginning professional. It requires students to take a detailed look at a variety of planning, teaching and learning skills and concepts that combine to make a teacher effective in the classroom. Working with a tutor, as part of a small team, students devise and execute a number of lessons for small classes both with their peers and with second level students. Using video students are asked to review their recorded lesson individually and with their peers and tutor and reflect on areas for improvement in their practice. The findings indicate that prospective teachers appreciate the beneficial experience of this lab-based programme in developing effective instructional strategies including: planning for learning and reflective practice. Some ways of understanding these findings are explored in this paper.

Keywords: lab-based practicum experience; video; high leverage core practices; pre-service teachers; teacher preparation.

1 INTRODUCTION

Systems of schooling are only as good as the teachers who populate them with Sahlberg (2012, p. 1) asserting ‘research and experience both suggest one factor that trumps all others: excellent teachers’. Musset (2010) and others (Corcoran and O’Flaherty, 2017; 2016a; 2016b; McKenzie, Santiago, Sliwka, and Hiroyuki, 2005; O’Flaherty and Gleeson 2014; 2017; Wayne and Youngs, 2003) highlight the important link between teacher preparation and student outcomes, thus intensifying the investigation of teacher preparation programmes.

Microteaching, a scaled down version of an actual classroom is a technique practiced worldwide to provide student teachers an opportunity to develop their teaching by practicing various teaching skills in a safe and supportive learning environment (Ismail, 2011; Ogeyik, 2009; Şen, 2009). Microteaching has become central to initial teacher education (ITE) provision since the early 1960s. The theoretical framework underpinning this initiative has been replicated and adapted across various disciplines globally (Higgins and Nicholl, 2003; Benton-Kupper, 2001). This paper aims to report on the provision of a lab based school preparation experience that has evolved and adapted from an initial ‘microteaching programme’ at one initial teacher education (ITE) institute in the Republic of Ireland. The adapted lab-based practicum experience is designed from the perspective of focusing on a number of high leverage practices of the beginning professional. The aim of this paper therefore is to present findings pertaining to pre-service teachers’ attitudes towards this lab-based practicum experience prior to school placement. The research is located in its local and international context. Thereafter the methodology used in the research is described. Findings are presented in two sections; the first section presents student attitudes towards the programme and the second section presents the students’ attitudes towards reflective practice and how they viewed the use of video as a prompt for reflection. Finally, some ways of understanding these findings are explored.

1.1 Microteaching – lab based teaching practicum

In the late 1960s, a video-based approach to teacher education labelled ‘microteaching’ was developed at Stanford University (Allen 1966). Olivero (1970, p. 1), one of the original co-workers at Stanford, defines microteaching as
... a scaled-down sample of actual teaching which generally lasts ten to thirty minutes and involves four to ten students. A microteaching session simulates a regular classroom instructional period in every way except that both time and number of students are reduced.

Within the model developed at Stanford pre-service teachers were required, as part of their teacher education programme, to take a three part course. First, they observed a model teaching scenario in which a specific skill was demonstrated, secondly they tried out the new technique and thirdly they received feedback on their performance. Feedback was based on the viewing of the recorded microteaching session that the pre-service teacher had engaged in and then having the recording reviewed by a tutor or supervisor. Whilst the microteaching classroom is simplified in a number of ways, a number of variables can be adjusted in order to change the experience for the student including: teaching students or peers, length of the lesson, number of students, number of re-teaches, the amount and type of scaffolding provided to students and the use of the video recording for review and reflection. Numerous studies, carried out through the mid-1970s, supported the use of microteaching for the acquisition of new teaching techniques (for example, Acheson and Zigler 1971; Limbacher 1971; Allen and Clark 1967).

1.1.1 Student attitudes’ towards lab-based initiatives in teacher preparation

A number of studies have provided evidence that lab-based teaching experiences provide an effective means of improving prospective teachers’ teaching skills (Benton-Kupper 2001; Fernández and Robinson 2007; Higgins and Nicholl 2003; Ismail, 2011; Ogeyik, 2009). Rama and Reddy (2013) reported favourable student attitudes towards a programme which focused on the development of one ‘skill’ at the time. Benton-Kupper (2001) reported that pre-service teachers found lab-based teaching experiences helpful in enabling them to recognise and identify strengths and weaknesses in their mini-lessons. Other researchers have highlighted the benefits of engaging in lab based teaching initiatives: pre-service teachers engaged with valuable teaching experiences which make them aware of the benefits and relationships between theory and practice (Bell, 2007); students reported increased levels of self-confidence as a result of observing themselves teaching (Şen, 2009); increased sense of teacher efficacy (Mergler and Tangen, 2010); students considered the learning that resulted from self, peer and expert feedback as important to their development as effective teachers (Higgins and Nicholl, 2003).

1.2 Research context

Student teachers in the current study were enrolled on a four year concurrent teacher education programme reflecting a ‘hermeneutic view of teacher education as practical science’ (Elliott 1993, p. 17) with three main strands: Physical Education with an elective; Science (Physical or Biological); and Materials and Technology (Architectural or Engineering). The programme is conceptualised around a spiral framework focusing on the self in first year, the classroom in second year, the school in third year and returning to the self in the final year, this time in the context of the School Placement. Some 20% of credits are allocated to ‘Education Studies’ with the Foundation Disciplines providing the ‘spine’ of the programme together with a strong emphasis on reflective practice (McGarr and McCormack 2014). Students complete a six week School Placement in their second year and a ten week placement in their final year as well as some twenty modules in their subject discipline(s). For the purposes of this paper the authors will discuss the focus of a lab-based practicum experience focusing on one high leverage practice, reflection and the inclusion of video as a prompt for reflection.

1.2.1 Evolving Focus on High Leverage Core Practices

In the past number of years research has begun to emerge which investigates ways of focusing teachers’ professional training on “core” or “high-leverage” practices of teaching (Ball and Forzani, 2009; Forzani, 2014; McDonald, Kazemi, and Kavanagh, 2013). Windschitl, Thompson, Braaten, and Stroupe (2012, p. 880) define ‘High Leverage Practices’ (HLPs) as a set of designed practices ‘that are fundamental to support K-12 student learning and that can be taught, learned, and implemented by those entering the profession’. Hlas and Hlas (2012, p.78) suggest that a failure to define and agree best practice has led to the re-conceptualization of teaching as one that involves the use of high-leverage core practices, defining them as a ‘core set of practices that has the greatest impact on student learning and, therefore, may serve as a curricular framework for professional preparation in teacher education programs’. In terms of selecting HLPs they are usually used frequently in teaching and learning, implemented broadly across the curriculum, research informed and evidence based,
linked to student outcomes, and transferable to novices (Forzani, 2014; Grossman, Hammerness, and McDonald, 2009; McDonald et al., 2013). Previous research has reported inclusion of the following high leverage core practices in teacher preparation: the use of video as a prompt for deconstructing practice (Ball, 2013), anticipating student errors and misconceptions during planning (Ball and Forzani, 2010), leading a classroom discussion (Hlas and Hlas, 2012) and modelling (McDonald et al., 2013). This research reflects an increasing effort to develop what has been termed “practice-based” teacher education, which attempts to focus novices’ learning more directly on the work of teaching rather than on traditional academic or theoretical topics that may have only marginal relevance to the realities of the classroom (Forzani, 2014, p. 357). Maheady (2015) sets out that teacher preparation programmes devise curricula around a common set of core practices which focus on organizing learning of pre-service teachers that help novices develop knowledge and skills to use them to improve student outcomes. Dependent on this is the necessity to first select and agree a number of high leverage core practices for the beginning professional and second create infrastructure to implement these practices across teacher preparation programmes.

1.2.2 Reflective Practice

Mirroring international trends, reflective practice has become a prominent feature of teacher education in Ireland (Lane, McMaster, Adnum and Cavanagh 2014). The programme undertaken by the study cohort places a strong emphasis on critical and on-going reflection, particularly during the lab-based teaching practicum and School Placement where the students’ ability to demonstrate reflective inquiry is formally assessed (McGarr and Moody 2010). During their on-campus experience student teachers engage in several different experiences that they are required to reflect on. McGarr and McCormack (2014) track the growing interest in the teacher as a reflective practitioner as evidenced in the increased emphasis placed on such teacher qualities in national policy (Teaching Council, 2011; DES 1998; DES 1995). Reflection on an individual’s practice is perceived ‘as a productive way of helping student teachers become adaptable, inventive practitioners sketched in the OECD vision of future teachers’ (Leonard and Gleeson 1999, p. 56). The discourse surrounding reflective practice in teacher education identifies its benefits in assisting student teachers to make sense of their practice by broadening their perspectives (Bolton, 2005) and helping them address challenging problems they experience (Loughran, 2002). Researchers recommend providing opportunities in teacher preparation that ‘provide shared contexts for prospective teachers’ exploration of pedagogical problems and engagement in reflection and critical analysis of their teaching (Fernández 2010, p. 351) as possessing a ‘disposition to engage in reflection and a willingness to learn from those reflections are integral to becoming an effective classroom teacher’ (Poom-Valickis and Mathews, 2013, p. 421). However, lab-based teaching experiences may not be as effective without offering prospective teachers opportunities to reflect on their performance (Ismail, 2011), as critically observing a video-recorded lesson can offer valuable opportunities for student teachers to revisit their executed lessons and make thoughtful decisions for improvement and development of effective teaching strategies.

1.2.3 The use of video

The use of video in the lab-based experience provides pre-service teachers with concrete images of practice thus enabling a context which supports the development of analytical skills required for critical reflection. Video recordings allow the pre-service teacher to discriminate between ways in which learners comprehend subject matter, identify problematic features, assess student responses, detect, diagnose, and develop instructional responses to student errors (Şen, 2009; Burnaford, Fischer, and Hobson, 1996). Jacques (2000) suggests that video recording and play back has benefits in teacher education, such as alerting everyone in the group to behaviours and events that they may have failed to notice at the time of the recording. Play back, he suggests, can also prompt reflective questions and discussion among the participants about the interactions recorded. Within the lab-based programme video reflection for student teachers can lead to an ‘intrinsic desire to change’ (Tripp and Rich, 2012). Maclean and White (2007, p. 58) report on a study that explored video reflection and found that video reflection ‘benefited student teachers by increasing their confidence, enthusiasm and professional learning’. It is important to remember that video reflection within the lab-based programme is carried out both in the company of a qualified teacher and independently. Research has shown that student teachers value greatly the time spent in the company of ‘teachers in the practicum’ (Maclean and White, 2007) and equally the value of peer coaching (where peers work together to reflect on current practices; expand, refine, and build new skills; share ideas; teach one another; conduct classroom research; or solve problems (Lu, 2010). Woolfolk, Hoy and Burke Spero (2005) suggest the feedback received by pre-service teachers about their teaching plays an important role in bolstering (or
lowering) their efficacy. Researchers have reported positive effects of programmes in which teachers are asked to reflect on and to analyse cases that use video to illustrate concrete teaching situations (Mumme and Seago 2003; Franke and Kazemi 2001; Goffree and Oonk 1999).

2 METHODOLOGY

Within the context of this study the lab-based experience is offered as part of the undergraduate concurrent teacher education programme. The programme is designed to prepare students for their School Placement (SP) in the spring semester of their second year and requires students to take a detailed look at a variety of planning and teaching skills and concepts that combine to make a teacher effective in the classroom. The programme is facilitated across three cycles within 12 weeks and requires the student working with a tutor/mentor, as part of a small team (n=6), to devise and execute a number of ‘mini’ lessons for small class groups constituting either their peers or second level students (aged 12-14 years). The programme is designed to include both contact time with the tutor (17 hours across 10 weeks) and independent work on behalf of the student. Over twelve weeks, students teach on three occasions, once as part of a Peer Teach group and twice as part of a small group facilitating second-level pupils. Lessons are recorded for later analysis and reflection both individually and with the tutor. This process allows students to take a closer look at their interaction with pupils and facilitates collaboration on reviewing, analysing, and revising the lesson plan for re-teach purposes. The programme is designed on the premise of fostering particular high leverage core practices of the beginning professional in the areas of planning for learning; reflective practice; and monitoring and evaluation of practice with the use of video to aid the reflective cycle. Pre-service teachers are expected to ‘experiment’ with instructional practice as opposed to emulating observed ‘expert practice’.

Design: The aim of this study was to evaluate student attitudes towards the provision of a lab-based practicum focusing on high leverage practices of the beginning professional in preparation for School Placement. This research was conducted within the interpretivist paradigm which allows for thick descriptions and complex nuanced findings which are viewed as advantageous over statistics, measurements and numbers related to a stable and objective reality (Dumas and Anderson 2014). A mixed methods approach was employed involving the administration of a questionnaire to pre-service teachers followed by a number of focus groups with the study cohort. Ethical approval was sought and granted from the University Research Ethics Committee and is in compliance with ethical protection for human subjects research. Informed consent was obtained from all parties involved and pseudonyms are used to maintain confidentiality. This study sought to address the following questions:

1 What are pre-service teachers’ attitudes towards a lab-based practicum prior to school placement?

2 What are pre-service teachers’ experiences of a lab-based practicum prior to school placement?

Measures: The questionnaire examined student attitudes towards the programme; their tutor; and their own level of engagement with the programme. They were asked to indicate on a five-point Likert scale: whether they found the learning goals, facilitates, and course materials appropriate for the programme; whether the programme contributed to their knowledge, skills, attitudes, levels of personal effectiveness, and engagement with course requirements; and whether they perceived their tutor was motivated, effective, knowledgeable, and well prepared? Opened ended questions were also included where students were invited to explain their response. Following analysis of questionnaire data, focus groups were conducted with two groups of pre-service teachers. Each focus group consisted of five pre-service teachers with a mixture of gender and course of study that is, Physical Education, Architectural Technology; Engineering Technology; Physical Sciences and Biological Science. Each focus group lasted approximately 30 minutes and was recorded using a digital recorder. The focus groups explored the main themes emerging from the questionnaires including: aspects of the programme students found particularly helpful or unhelpful; development of different skills; and the use of video as a prompt for reflection.

Participants: Second year pre-service teachers registered on a concurrent teacher education programme participated in the programme as part of an education module in the academic year 2014/15. The current study was conducted at the completion of the 12-week programme. Questionnaires were distributed to all second year pre-service teachers. 214 completed questionnaires were returned, giving a response rate of 88%. The majority of respondents were
between the ages of 19-21 years (77%), 39% were female and 61% were male. Apart from a small number of mature entrants, these student teachers would have achieved between 400 and 550 (out of 600) points in the Irish Leaving Certificate in a context where there is ‘keen competitiveness for entry to all categories of teaching’ (Coolahan 2003, p. 21). The study was limited to the extent that information pertaining to what happened during the sessions was reported by the students through completed questionnaires and focus group enquiry. No direct observation occurred on the part of the authors.

Data Analysis: Quantitative data were analysed using the statistical package for the social sciences (SPSS). Frequencies and descriptive statistics were applied. The thematic coding approach advocated by Miles and Huberman (1994) was employed for the analysis of the qualitative data. Focus Group responses were categorised according to emergent themes using an inductive approach of data analysis (Lewis, 2009). Transcripts were studied, themes were identified and responses were indexed, organised and classified in line with the emerging themes (Creswell, 1994). Codes were generated by means of bottom-up coding, which supported openness to new codes/theory emerging from the data (Lewins, 2008). Once the initial coding scheme was developed it was piloted using a randomly selected sample of the data. Multiple coders allowed for the coding scheme to be applied in a reliable way. Inter-rater reliability ranged in the ninetieth percentile. Validity and reliability: In order to enhance the validity and reliability of the research, the questionnaire and focus group questions were piloted with subsequent alternations being made. Ambiguous, leading or hypothetical questions were avoided in order to enhance the reliability of the questionnaire. The questionnaire was administered with clear and consistent instructions. Questionnaire items were deliberately chosen so as to reinforce earlier questions thus allowing for triangulation, a powerful way of demonstrating validity and reliability in qualitative research (Cohen, Manion, and Morrison 2011).

3 RESULTS

This research focused on students attitudes towards a lab-based practicum where the primary focus was to prepare the student for School Placement. Analysis of the findings showed a number of topics emerging from both the questionnaire and focus group sessions. Findings are presented in two sections. Section 1 presents student attitudes towards the lab-based programme. Section 2 presents student attitudes towards the use of video as a prompt for reflection.

3.1 Student attitudes towards a lab-based practicum experience

Students were positively disposed when asked to discuss their attitudes towards this lab based teaching activity and this positivity was resonated by ninety three per cent of respondents (n= 214) that agreed that overall, the programme is effective in terms of preparing them for School Placement. Ninety-one percent agreed that the subject matter presented is relevant to their individual educational goals. The majority of respondents (88%) agreed with the statement ‘the lab-based experience has significantly increased my knowledge in the subject area’, while a further 92% agreed that engagement with the programme had increased their skills in the subject area. When asked to explain their responses, students alluded to the value of the experience in terms of developing their pedagogical skills, as well as the value of feedback with some students suggesting that more time could be allocated to this experience.

This programme has greatly helped my teaching skills. I feel what I have learned in lectures helped my teaching in labs (Male, Architectural Technology)

Although at times the work can be difficult, overall I have enjoyed my learning experience and my teaching skills and knowledge have improved immensely from this programme (Male, Engineering Technology)

Labs well structured, feedback great, I found I learned a lot from them (Female, Physical Sciences)

I have found the labs very helpful, however I think we should have been allowed more time to teach as 7 minutes was very short (Female, Biological Sciences)

More interaction with students would be beneficial as I felt I developed new skills after each Teach [session] (Male, Architectural Technology)

A number of respondents noted an increase in their levels of confidence through engagement with the lab-based practice.
Overall, this programme has built and developed my confidence levels and not just in the classroom but with my peers as well (Male, Biological Sciences)

Greatly helps to improve presence, confidence and makes you more aware of effective learning strategies (Male, Engineering Technology)

It gave me more confidence to teach in front of peers and [second level] pupils (Male, Architectural Technology)

Teaching of students from schools helped me with my confidence with teaching (Female, Physical Education)

I now have much more confidence in my own teaching abilities (Female, Biological Sciences)

Seventy-two per cent reported that they found the programme interesting. Thirty one per cent of respondents agreed with the statement ‘I find this academic subject quite easy’, while 32% disagreed with the statement. A number of students identified planning as a key area of improvement emerging from their experience.

The tutor had a very practical and enthusiastic way of developing planning for teaching in class, it helped me in thinking creatively and outside of the box and even subject area (Female, Physical Education)

I felt the programme improved my ability to write lesson plans (Male, Engineering Technology)

The programme helped get us familiar with lesson plans, and coming up with interesting resources to use in a lesson (Male, Biological Sciences).

However, a number of focus group respondents noted that they would have liked more time with second-level students as they felt three record sessions was not sufficient in terms of preparation for School Placement (SP).

I would have liked the chance to do more teaching with the secondary school students – good prep for SP (Male, Architectural Technology)

More contact with students – makes it real (Male, Engineering Technology)

I thought the overall experience was brilliant but the time we had with [secondary] students felt too short. I think maybe a bit more time with students would benefit more (Male, Architectural Technology)

Also a number of focus group respondents spoke of the ‘artificial classroom environment’, leaving them feeling ill-prepared for the ‘real classroom’.

Classroom facilities could be better for metalwork … not realistic to have two round tables (Male, Engineering Technology).

The rooms are not really suitable for drawing (Male, Architectural Technology).

Was good, but a bit unrealistic with classroom setting and class sizes (Female, Physical Education).

### 3.2 Student attitudes towards the use of video as a prompt for reflection

The second key theme emerging from the data was the possibilities for scaffolded reflective practice prompted by engagement with video recordings. The majority of questionnaire respondents (92%) acknowledged the usefulness of the recording for both individual and peer review.

Looking back and reviewing [the recording] allowed me to see and review critical pieces in my teaching (Male, Physical Education)

The feedback we got each time [we reviewed the recording] helped me gain more knowledge and improve myself for next time (Female, Engineering Technology)

When we were asked to give feedback on other peers’ teaching [by reviewing the video recording] – it also helped me reflect on my own teaching and methodologies (Female, Biological Sciences)

What I really appreciated about the programme was the fact that as well as reflecting on and improving my performance, we were given the opportunity to learn from one another, this was very effective (Male, Physical Education)

Students also alluded to the value of video recordings in aiding the reflective cycle, in terms of supporting critical reflexivity and evaluation of practice.
Watching back the videos allows one to reflect critically on your teaching – positives and negatives (Female, Biological Sciences)

Review of the video gives a good opportunity to assess how I’m developing in all areas of teaching (Male, Biological Sciences)

Video analysis and classroom discussion/feedback was particularly helpful – getting advice from colleagues, good to get ideas from (Female, Physical Education)

Interestingly, focus group respondents highlighted the usefulness of the programme in terms of linking campus-based material to the classroom context prior to Year 2 School Placement.

This module is very appropriate in second year and gives us an opportunity to practice skills and knowledge learned in previous education modules (Female, Engineering Technology)

[This programme] puts what you learn in lectures to use. It is a taste of teaching and very important before going on teaching practice (Male, Engineering)

4 DISCUSSION AND CONCLUSION

Similar to prior research studies (Rama and Reddy 2013; Ismail 2011; Fernández 2010; Ogeyik 2009) participant responses to both questionnaire and focus group questions affirmed the lab-based practicum experience as a favourable teaching and learning strategy. The data reported provides evidence that prospective teachers appreciate the beneficial experience of this specific programme in developing effective instructional strategies. The programme was found to be a useful strategy in that it has the potential to facilitate student teachers in developing teaching, assessment and feedback skills in a safe and supportive learning environment. The key findings from this study show that: participants greatly value the lab-based practicum as an experience prior to School Placement; video recordings were identified as a useful prompt to scaffold both individual and peer review and finally engagement with this experience facilitates pre-service teachers to begin to implement theoretical knowledge obtained through lectures and tutorials for the first time in a ‘lab-based’ setting.

Lab-based experiences may not be as effective without offering prospective teachers opportunities to reflect on their performance, as critically observing a video-recorded lesson can offer valuable opportunities for student teachers to revisit their executed lessons and make thoughtful decisions for improvement and development of effective teaching strategies (Ismail, 2011). A significant challenge in all teacher education programs is the ability to identify and bridge the perceived theory/practice divide and in particular to provide concrete examples for students of how their understanding of theoretical perspectives can influence and benefit their professional practice. Cheng, Cheng and Tang (2010, p.102) concluded that ‘the quality of teacher education programs can be improved only if teacher educators help student teachers identify the gap between teaching and theory, and continually facilitate them in connecting their learnt theory and practice’. Within the traditional ‘theory/practice dichotomy’, there has always been an assumption that student teachers will be able to transfer the pedagogical theories and approaches learned in teacher preparation to their future classes in schools (Fernandez and Robinson, 2007). The concurrent teacher education programme taken by the study cohort places a strong emphasis on linking theory and practice through critical and on-going reflection, particularly during practicum experiences. This means that the main focus is on what Lane et al. (2014 p. 4) call a cyclical ‘deep form of reflection’, leading to experimentation/action. Larrivee (2000, p. 294) suggests that, ‘unless teachers engage in critical reflection and on-going discovery they stay trapped in unexamined judgments, interpretations, assumptions, and expectations’. Challenging students through engagement in open and honest reflective evaluations of their teaching supported and prompted by video recordings, can help potentially prevent them from reverting to the discursive resources used to frame classroom life and indeed may challenge their interpretation of teaching and learning that has been formed by their 15-year apprenticeship of observation (Lortie 1975).

Forzani (2014) suggests that as of yet work on the inclusion of core practices remains precarious, with Zeichner (2010) synthesising that resistance is still common place in terms of selecting or detailing professional training ‘practices’. It is therefore paramount that those involved in teacher preparation examine the core practices that are specific and unique to particular learning goals as well as clearly distinguishing high leverage practices from generic best practices models. Furthermore, there is a paucity of evidence supporting consensus of high leverage practices for both beginning and developing professional teachers and a further dearth of evidence to support the measurement or assessment of these practices if indeed included in teacher preparation programmes. Gathering
systematic evidence as to the effectiveness of teaching high leverage practices needs to become an essential component of evaluating teacher preparation programs that adopt HLPs.

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