

Collaborative Team Work in Higher Education: A Case Study

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Abstract—If teamwork is the key to organizational learning, productivity and growth, then, why do some teams succeed in achieving these, while others falter at different stages? Building teams in higher education institutions has been a challenge and an open-ended constructivist approach was considered on an experimental basis for this study to address this challenge. For this research, teams of students from the MBA program were chosen to study the effect of teamwork in learning, the motivation levels among student team members, and the effect of collaboration in achieving team goals. The teams were built on shared vision and goals, cohesion was ensured, positive induction in the form of faculty mentoring was provided for each participating team and the results have been presented with conclusions and suggestions.

Keywords—Collaboration, Leadership, Motivation, Reinforcement Teamwork.

I. INTRODUCTION

IN a genuine effort to improve learning amongst management students, the concept of teamwork was being promoted and ushered in. Student teams were constituted to explore the possibilities of facilitating team work and team learning. Student teams were carefully chosen each of which were to be headed by a Faculty mentor. In a class of 60, teams comprising of 6-7 were chosen for this experiment. This strategy was based on the shift from a predominantly instructivist to constructivist pedagogy with the need for using/ creating a learning environment based on team projects, team tasks or being involved with problem-based scenarios [17]. These learning designs promote the construction knowledge as they are embedded in a social experience within a team environment [21]. The rationale for employing teamwork in facilitating learning is based on various (attributes) results that could be achieved through team learning. Teamwork is defined by [18] “as a co-operative process that allows ordinary people to achieve extraordinary results”. Teams also enable individuals to harness their competencies to achieve a shared common goal. Shared learning, social sensitization, feeling of belongingness and camaraderie are off-shoots of good teams. Successful teams are built on synergism that is pivotal to environments that strengthen positivity, effectiveness and win-win scenarios. Team members however must be flexible enough to adapt to cooperative working environments where goals are achieved through collaboration and social interdependence rather than individualized, competitive goals [16]. Various attributes that

contribute to successful teamwork were assessed before the case study was taken up. Among the important, some of them are presented in this paper.

II. BACKGROUND OF THE EXPERIMENT

A. Training for Faculty Mentors

As a precursor to the whole experiment, training in the form of two workshops were organized giving the faculty mentors theoretical inputs on leadership, coaching, behavior modeling, and team building. The second workshop was centered on team building and sensitivity training that would be useful for faculty mentors when they eventually took over the teams. Pre- and post-training feedback was collected from faculty to assess the utility, learning and benefits of the training programs. Faculty was also encouraged to use some of the team building exercises to foster team work amongst team members. Some of them were on communication, group formation stages, leadership, Transactional Analysis, Johari window and MBTI.

B. Faculty Profile

The entire faculty involved in this experiment had 5 years plus experience in handling master's programs in management and had been working in the school for the same period or more. Fortunately, continuity of service, security, and equitable compensation ensured high motivation levels and the faculty evinced keen interest in the experiment. Faculty was academically qualified and possessed doctoral degrees in management, with varying bachelors' education. Of the ten faculty members involved in the experiment, three were female members.

C. Student Profile

The number of students chosen for this study was 60 and all were the students of the two year master's program in management. Students belonged to the age group ranging from 20-23 years and comprised of 12 female students. Teams were carefully picked taking into consideration their academic performance in the mid-term examinations of the first semester and due consideration was also given to the optimal mix of skills that members would have in the team. Care was taken to distribute female students among the ten teams with emphasis on ensuring complementary skills amongst team members. Teams were apprised of the experiment, consent taken and were part of extensive workshop sessions imparting theoretical and practical aspects of communication, importance of group work, team building, emotional quotient, leadership, managerial functions and goal accomplishment.

D. Projects Undertaken

The projects assigned to the student teams were single long-term projects for a period of three semesters and the teams presented their findings, inferences, and suggestions to clients and faculty mentors during the last semester. Clients included industries from the Cements, Steel, Pharmaceuticals, FMCG companies, Finance Corporations, and Service Industries. The Client was also informed and briefed of the on-going experiment and the client's collaboration, support and mentoring was solicited. Client contact persons were regularly met by faculty mentors to ascertain a) the progress on the project, feedback and support needed for student teams b) the evaluation of student teams on various parameters considered for this study.

E. Mentor's Roles

Faculty mentors met with student teams weekly to begin with and then fortnightly to discuss various stages of the projects, give them the needed support and theoretical and conceptual base to identify client problems, choose their problem, model the project, develop action plan to carry out the project, data collection, validation of data collected, data analysis, drawing inferences, developing models for the client, meeting with the client at different stages of the project, final presentation of solutions and recommendations addressing client problems.

F. Team Meetings

Fortnightly meetings were organized for each team to review work progress, address team related issues and to thrash out differences if any relating to team dynamics, technical project related issues and *modus operandi* to go ahead with the carrying out the project in accordance with client Requirements.

G. Allocation of Tasks

As teams comprised of members with complementary skills, allocation of work depended on the strengths of each member. For example, finance related issues of a client's problem would be addressed by the team member who possessed knowledge in finance. Also, members of each team had the freedom to approach the Finance Faculty apart from taking inputs from their respective faculty mentor. Faculty worked synergistically and collaboratively emphasizing a win-win situation for individuals, teams and the school as a whole if the projects were done methodically and with commitment.

H. Team Leadership

The baton of the team leaders' role was passed on to the faculty mentor to begin with and the faculty mentor would then strive to ensure that leadership responsibilities of the team would be shared as in a High Performance Work System. One of the objectives of the study being strong team learning, leadership it was felt should be every member's responsibility. It must be mentioned here that emergent informal leadership did surface from time to time and efforts were made by the faculty mentor to functionally align the informal leadership.

I. Rewards

Rewards for students came in the form of higher scores in their project works, and better grades. Teams that were doing well and appreciated by their client had a cash prize up for grabs at the end of their presentation to the client. Further, clients also promised to hire and offer jobs for members whose performance they found to be excellent. Job opportunities and the chance to be associated with a reputed company to launch their career was the biggest motivator for the students apart from the grade and recognition amongst colleagues.

Rewards for faculty mentors was time release and course release that was offered to each faculty mentor. Further, faculty mentors had an annual stipend that amounted to their one month's salary. Clients offered 'Letters of Appreciation' to faculty mentors' whose teams did beyond expectations. These measures ensured that both faculty mentors and student members were offered enough intrinsic and extrinsic motivation to participate in this constructivist exercise.

J. Success Dimensions

Success of teams was determined based on the clients' satisfaction of outcomes at different stages of the project. Clients' feedback was an important input to measure how successful a team was. Periodic interviews were organized either at the school or at the client's office to ascertain team performance at different stages of the project. This also included the rapport built, the cordial relationships amongst members and with the client. Faculty mentor also assessed success taking into consideration the initiative exhibited by team members and the team as a whole to go the extra mile during the formulation and execution of the project. Client and faculty mentor feedback on the team's sense of urgency, empowerment, and focus on learning as a major reinforcement were integral in assessing the degree of success of a team. Apart from these dimensions, the approach of the team members in confronting conflict and in conflict management to maintain cohesiveness was pivotal in assessing success levels of the team. Teams that required frequent third-party intervention (other faculty) for example were rated low on this dimension. In other cases, clients reported lack of interest and enthusiasm amongst team members during different stages of project formulation and execution.

K. Team – Mentor Relationship

It was presumed that each faculty mentor enjoyed and shared good relationship with the student community and faculty mentors were assigned to teams on a random basis so as to get rid of any bias. However, it remained up to the individual faculty to develop a rapport with team members to facilitate group work. Sometimes other faculty members' intervention was necessary to bolster team processes. The possibility of re-assigning faculty mentors to different teams was not tried out and future studies on collaborative team work could possibly incorporate the option of re-assigning faculty mentors at different stages of the experiment to ascertain the impact of such a change.

III. VARIOUS DIMENSIONS CONSIDERED FOR THIS STUDY

A. Commitment as an Attribute

We all realize that commitment to shared goals is a prerequisite for team success. When participants understand their purpose and share the goals, achieving the mission is possible [9]. Having a strong goal essentially points to “what” to be achieved and the “where” individuals envision themselves over a period of time. A clearly enunciated goal triggers the strategy formulation or “how” to “achieve it” or “reach there”. It is imperative that members must share a strong common goal [14]. Commitment amongst members is necessary to promote group cohesion [2]. Another tenet of a successful team is interdependence. It is not amiss here to reiterate the impact of other members’ success on individual and group success. Team members build on the capabilities of their fellow, the combinations energized through synergy [9]. Teams for this study were comprised of members with complementary skills, skills that were required to work on projects for industrial clients. These projects were challenging and required skills in project management, marketing research, finance, scheduling, HR and reporting. The nature of tasks required to be performed by the teams’ necessitated interdependence, a systems-oriented approach to accomplishing goals.

B. Interpersonal Skills

Anyone who has worked in successful teams can safely vouch for the fact that teamwork depends to a great extent on how members can protect and support each other. This is required to foster trust, confidence and commitment within the group [12]. Members must not only be respectful and supportive of one another but also be realistic in mutual expectation [12]. When members have trust, they can express freely and that in turn builds greater trust. The trust-open communication cycle is the founded for constructive criticism, suggestions and corrective action. Interpersonal skills come to the fore to enable members give and accept feedback in a non-defensive manner [12]. A combination of complementary skills and openness in communication and feedback ensure that teams accomplish what they set forth to achieve. Communication further facilitates indoctrination of norms, clarification of roles, task allocation, coordination and approach to goal accomplishment.

Communication is also closely linked with an integral team process, decision-making. In successful teams decisions are arrived at through consensus [6]. Members must encourage group participation and consensual decision-making. Regular meetings were organized for the teams considered for this case study to enable regular interaction opportunity and freedom to participate and encourage consensual decision making. Members were encouraged and empowered to shoulder leadership responsibilities. Through empowerment individuals were taught to accept responsibility and stay accountable for tasks assigned to them. With teams that have motivated members it is that much more possible that they subscribe to distributed leadership.

C. Autonomy

Autonomy was a key feature of these teams as a great deal of freedom was embedded into their teams processes, goal setting, strategy formulation, task allocation, review process and remedial actions. Autonomy was prioritized in the teams that were created autonomy has been found to be positive association with attitudinal measure of organizational commitment [5]. Autonomy was also found to be positively associated with the sense of satisfaction [5].

D. Size

Size was a big question that we had to answer before this constructivist approach to team building and team learning for the students of the MBA Program. Research suggests that size has a curvilinear [20] or inverted U-shaped relation to effectiveness such that too few or too many members reduce performance. Therefore, the teams for this case study were limited to a maximum of eight and no team had fewer than six members in their team.

E. Rewards / Reinforcement

The teams involved in their study were student teams and there were no monetary rewards up for the taking. One of the big reinforcement that was planned for team performance was the recognition and appreciation that they would receive. These were the motivators akin to “motivators” or “satisfiers” that [13] enunciated as factors that influence motivation. It was conceived that an honors gala for all successful teams would be organized and appreciation letters would be presented to outstanding performers. Membership to these teams was perceived by students as an incentive to learn, grow and self-actualize. Another reinforcement which student members saw was the association of the faculty mentor as a facilitator of team learning. A faculty mentor would be catalyst in accessing information, giving directions and inputs, train, counsel and offer timely feedback for members to ascertain the progress they make as individuals and as a team. Reference [4] found that management recognition was positively associated with team ratings of performance, trust in management, and satisfaction for both self-directed and traditionally managed groups. When joined with other contextual variables (information access, training, resources, and feedback), it proved a strong positive predictor of performance ratings for groups. When tasks are interdependent and members have over the period of their assignment complemented, supported and backed each other, collective or joint recognition motivates them.

F. Supervision

As part of the constructivist approach to team building, faculty mentors were advised to exhibit positive mood and talk bolstering stronger team ties [10] found that a supervisors’ positive mood had positive impact on pro-social behavior. Also, faculty mentors were required to fulfill the role of a formal leader even as members shared leadership responsibilities through empowerment and being held accountable. Leader even as members shared leadership responsibilities through empowerment and being held

accountable. Leader affect and leader cognitions in the form the expectations were found to affect team performance [7]. Teams were organized to voluntarily meet, interest, conduct business on projects for clients review and report to their faculty facilitator. Faculty would then be convening a steering committee meeting to discuss progress, issues, further course of action and the support needed for teams to be effective and successful in accomplishing goals.

G. Conflict

One other attribute that was considered as an important component of successful teams is the comprehension of the nature of conflict and the process of conflict resolution. Two major types of conflicts were being considered relationship conflict and task conflict. Relationship conflict should stem from interpersonal incompatibilities, animosity, tension and annoyance. Task conflict on the other hand is caused due to the disagreement among group members about task content. The tasks for these teams were non-routine and members evinced great deal of interest and were ready expend effort to accomplish them. Disagreements within groups were civilized, members interacted more often to thrash out the differences and move on. Timely intervention of the faculty mentor was solicited in order to prevent conflict escalation to a point where it would be dysfunctional. Relationship conflict could have a negative impact on team performance as members of teams avoided some people and with high levels of task interdependence such a scenario could only stifle team performance.

H. Cohesiveness

Cohesion is defined as “a dynamic process reflected in the tendency for a group to stick together and remain united in the pursuit of instrumental objectives and /or the satisfaction of member affective needs” [3]. In simpler terms, cohesion could be understood to be the degree to which members of a team are attached to one another and sustain the desire to stay with the team. Cohesiveness is believed to contribute to satisfaction of affiliation need of group members [22] and also moderate the detrimental effects of environmental constraints on organizational behavior [8] and as a result lead to substantially better team performance [15]. In a meta-analysis of various studies [8] they found a strong relationship between cohesion and performance. Cohesiveness has also been found to have a therapeutic value for promoting personality change Literature also reveals the impact of cohesion on team success, collective efficacy, group communication and performance [1]. Research by [11] proved that task interdependence was a major moderator in cohesion-performance relationship. The tasks that require much of interaction, communication, interdependence, coordination, mutual monitoring among members are strongly related to determine this relationship than the tasks, which require minimal presence of these factors [22]. Sometimes cohesiveness could be dysfunctional and adversely affect performance [19]. Found in their studies that cohesiveness – productivity relationship was being moderated by the extent to which the group considered the task

important. Schachter also discussed the impact of positive induction, for example, positive leadership on productivity. Highly cohesive teams with positive induction showed a spurt in productivity and with negative induction, productivity dropped substantially. In another study, [15] found that group task norms moderate the relationship between group cohesiveness and group/ team effectiveness. He found groups with high cohesiveness and task norms were only more effective than other groups and that the combination of high cohesiveness and non-task norms were found to be associated with poor performance.

IV. CASE STUDY

Newcomers to the MBA Program were required to be part of teams for their study. Groups of 6 members with complementary skills identified after the mid-term exams of the first semester and one-on-one interviews were selected to be part of teams. Members would have tasks that required skills in problem identification, design of data collection tools, data collection and analysis, ability to draw inferences, and report findings and recommendations to corporate clients. Teams were given with separate time slots to discuss, interact and devise strategy, approach and modus operandi for going about their tasks in conjunction with inputs from clients. Each team had an assigned faculty mentor to lead, facilitate, support and monitor work progress. The aim of this approach was to foster team learning, enable synergy, sharing of knowledge, and fostering commitment amongst members. Teams met regularly, interacted often and were actively involved in all team tasks for a period of two years.

A. Successful Teams

Commitment to team success and shared goals: the teams that were successful in this study were highly motivated to team goals and success. They were never weaned away from the task at hand and stayed focused on goal accomplishment. Members of these teams also were supportive of each other and emphasis was given to cordial and harmonious relationships. Designing customized solutions for client problems and issues brought out the best from each member and they remained open to ever possibility to improve their contribution to the project. It was their backing of one another and the synergism that fascinated the client and faculty of the School of Management. Prospects of a job with the client in appreciation of the good work that the team did kept the morale of the team high and positive. Even when confronted with setbacks, criticism and failure, the team members would bounce back ;more determined and stronger with better approaches, ideas and solutions.

Interpersonal Skills

The successful teams took time to interact, comprehend and respect differences and then would arrive at positions that benefited the team as a whole. They often met beyond the officially designated times to thrash out problems, sort out priorities and overcome implementation hassles. What was of interest will these teams was the sense of joy that members

associated with walking the extra mile. Non-verbal cues almost always augmented what was spoken during meet ups. Members of these teams showed a sense of urgency to accomplish goals but never sacrificed the human touch during the implementation process. Over the second semester team meetings exceeded with mutual trust that these successful team members had amongst them. It was also palpable that the trust the faculty mentor had on his team members was reposed. A sense of reverence prevailed for one another and the task at hand.

Autonomy

Successful teams valued the autonomy given to them in deciding approaches that client issues, members felt empowered and experienced greater responsibility for all actions that they initiated. Members were at liberty to arrive at deadlines, scheduled meetings to discuss action plans, visit client organizations, collect data, visit libraries for literature review, conduct interviews, design and administer questionnaires, draw inferences and present to clients their findings and suggestions. Faculty mentors were catalysts during the experiment and intervened to give informational inputs and feedback on approach, method and tools employed by team members. For certain tasks that were directed toward curriculum design and development, various learning clubs, co-curricular clubs and community service, activities, the role of the mentor remained minimal and could be best described as an "observational role". Successful teams' members' responsibilities valued additional autonomy and accompanying responsibilities.

Reinforcement

Members of successful teams shared a common perspective as to what they perceived and valued as a reward. They perceived the learning that came with this team exercise as the most rewarding and satisfying outcome. This remained the biggest reason for the cohesiveness of these teams up until the last semester of the masters program. Members also valued the sense of belongingness and the satisfaction derived from fulfilling their affiliation needs. Members also experienced a greater sense of security and control on their destiny. Learning and continuous improvement had an impact on members' sense of self-efficacy. Members also felt that they had control on outcomes and that they could eventually turn circumstances in their favor. These members were had a great extent an internal locus of control and were certain that their efforts would get them the career and growth opportunities that they envisioned for themselves.

Supervision

In a marked finding of one of the most important influences on team morale and performances, members admitted the importance of the inputs and the role of the faculty mentor. Though to begin with, all faculty mentors were advised to exhibit positive moods and behaviors in dealing with members, it was apparent that members' perception of their mentor impacted team performance. Members of successful teams reported in interviews that their mentor invested quality

time in ensuring cordial team relationships, training that was need-based, encouraging discussion and open communication, creating informal settings and opportunities to de-stress, rejuvenate, renew and re-dedicate oneself to team and individual development. Members valued the concern, regard and confidence that their mentor had for them. Ideas, suggestions and strategic inputs given by members were taken seriously by their mentors and implementation of charges were facilitated on decisions taken after due diligence.

Conflict

Conflict did exist in successful teams as members differed on approaches to tasks, methodology used for research, deadlines and task allocation. Storming stages of approaching a task generated a huge number of ideas, mutual trust and respect led these animated discussions into more systematic dissection into pros and cons of each of the proposed methods / approaches. With each member being specialized in a particular skill / area, functional conflict was inevitable. However, successful teams exhibited great commitment to goals that were strongly shared and with positive induction of the mentor; disagreement remained civilized at all times. Persistence, openness, trust and supportive attitude of members ensured progress to the norming stage and a smooth transition to the performance phase for the team. Over the semesters the once perceived "interpersonal incompatibilities" turned to healthy respect to differences, perceptions and fields of expertise.

Cohesiveness

Faculty were skeptical to begin with at the start of the experiment reasoning that student teams would not stay together for long and that faculty mentors would need to expend enormous effort and time to keep them together. To everyone's surprise successful teams stayed put for the entire period of study and members were very attached to each other. They learnt from one another and shared good deal during their stay at the school. The bonds were strong during the projects they undertook for clients, during their club activities and even for normally competitive placement initiatives. Cohesiveness in successful teams was pivotal in tiding over differences and difficulties and staying focused on the "big picture". Team members guarded their identity fiercely and took criticism constructively to outsmart their detractors. No member big or small could play politics with intention to dent the solidarity that members expressed as a team. Cohesiveness coupled with relentless drive to improve, learn and grow made these teams formidable in face of adversity.

B. The Unsuccessful Teams

At least six teams of the ten teams could be classified as unsuccessful teams for reasons that are elaborated in this paper.

Commitment to team success and shared goals: Members of unsuccessful teams failed to share common goals and even repeated sessions to get their appreciation for collective aspirations met with mediocre results. Members felt intimidated and provoked with teams that were doing good

and taking giant strides towards developing into well-rounded personalities. It was the result of various contributing factors and would surely need more than two years (the period of this study) to work on issues and sort them out. One major reason could have been the strong subliminal perception amongst these members of “self-prophesied inadequacy”. Members presumed that their combination would never be able to achieve “big” things. It meant that the mentor had to intervene more than normal to get teams work for clients projects. These factors were evident in the lack of quality in their work for the client. With interventions, information and a lot of effort and energy expended sub-rosa, the output remained wanting.

Interpersonal Skills

Members of unsuccessful teams lacked interpersonal skills and were at loggerheads for most of the duration they interacted. They nourished false expectations of a few members and were laid back in their approach. Even this trust on a few “informal leaders” was issue-based and short lived. Meetings burst into skirmishes and altercations needing intervention of more than one faculty mentor, often the next door guy playing the peacemaker. Trust was found to be low amongst members on their own ability and on the ability of the others. It all seemed to have begun well and trust waned away even on the mentors’ influence to bridge chasms too deep. Only deadlines imposed by the school could get/extract minimal required contributions in a face-saving move for the school. The shift to the use of native language in confronting issues was a gratification that members reveled in to satisfy ulterior motives.

Autonomy

Empowerment precedes greater responsibility. The school and mentors tried various pedagogical tools to imbibe skills and strengthen the feeling of self-efficacy amongst members. Painstaking efforts were put in to engage members and bolster team learning camaraderie and satisfaction. These initiatives seem to go in vain as teams that were unsuccessful were poor in performance because of the way they perceived and reacted to greater autonomy. Greater freedom was used opportunistically, for procrastination and in social loafing. These teams had unspoken norms to stick with sub-standard benchmarks that they were complacent with. Consensus more often than no remained far-fetched and decision-making was centered on contentious issues unrelated to the goal to be achieved. Maintaining status quo and ensuring that the system did not deteriorate remained the top priority for mentors heading the unsuccessful teams.

Reinforcement

Members of unsuccessful teams sought no intrinsic motivation of opportunities to learn, develop or grow. With low levels of need for achievement, members needed to constantly be reminded of the benefits of team learning. Terse interactions amongst members did no good for nourishing possible need for belongingness, affiliation and safety. Without a strong shared goal/vision, remote chances of appreciation and recognition vaporized with below par team

performance. Mentors of these unsuccessful teams were put off and exasperated and often vented their feelings with negative moods and talk. It turned out to be that unsuccessful teams had little of the hygiene factors and barely any of the motivators that Herzberg’s two-factor propounds.

Supervision

From a constructivist approach that faculty mentors were supposed to adopt, these unsuccessful teams warranted more of eye-ball supervision. The objective of team learning had boiled down to herding and the blatant use of stick-carrot model. Mentors had to entice these teams with points on their grading and assessment as the only incentive to motivate members to contribute. These team members had prejudiced opinions on assessment methods and points used in validating learning outcomes. Supervision and leadership are integral to establishing norms of behavior, communication and expected quality in outcomes. And these norms need to be established at a very early stage in team building. With poor commitment to vaguely shared goals, paucity of time, personal incompatibilities, client deadlines and pressures and supervisory inadequacies, performance of these teams was poor. It was a matter of time before these teams crumbled prematurely sliding into the adjourning stage without going through the productive stages of team development.

V. CONCLUSIONS

The case study is based on interviews carried out with team members and faculty mentors once every month for a period of two years culminating with students graduation at the end of the Academic Year. The attributes listed in this study is not an exhaustive list and variables like skill inventories of members, personality types, organizational influences, power and authority influences and politics could be considered in future studies. Team performance and student members’ efficacy was assessed with inputs from other team members and mentors. The inputs were validated with interviews that were repeated as frequently as twelve times a year. Inputs from clients through interviewing methods were used to corroborate the findings presented. What was not done during the course of this study is the assessment of strategies and their effectiveness in the constructivist design itself. Mentors were afforded with freedom to experiment with different approaches to achieve desired results. However, mentoring capabilities could have differed amongst faculty members. This possible shortcoming was probably offset to a great extent with mentors supporting each other in their efforts. These experiments require concerted efforts over extended periods of time and are demanding on the faculty. Mentors would end up shouldering far greater work and in the process hinder their research work. This notion inhibits the chance to modify the constructivist design and run the experiment iteratively. The interest in these non-traditional forms of learning is always going to stay popular given the nature of work that today’s employees are required to be involved with in cross-cultural environments and working for truly transnational organizations.

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